504674879 12/06/2017

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4721601

		SUBMISSION TYPE: NEW AS				
NATURE OF CONVEYAN	OF CONVEYANCE: ASSIGNMENT					
CONVEYING PARTY DA	ΑΤΑ					
			Name			Execution Date
VICTOR MOROZ						11/16/2017
IBRAHIM AVCI						11/16/2017
SHUQING LI						11/16/2017
PHILIPPE ROUSSEL						11/20/2017
IVAN CIOFI						11/20/2017
RECEIVING PARTY DA	 TA					
Name:	SYNOP	PSYS, I	NC.			
Street Address:	690 E. I	MIDDL	EFIELD ROAD			
City:	MOUNT	ΓΑΙΝ V	IEW			
State/Country:	CALIFC	CALIFORNIA				
Postal Code:	94043					
Property Type		150000				
Property Type			Number			
Application Number: 1582						
Application Number:6243			276			
Application Number:		624302	284			
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JOINT TO CORPORATE ASSIGNMENT

WHEREAS, the undersigned,

- Victor Moroz
 17035 Bohlman Road, Saratoga, CA 95070
- (2) Ibrahim Avci1990 Briarwood Drive, Santa Clara, CA 95051
- (3) Shuqing Li
 414 Dayton Avenue, Santa Clara, CA 95051

hereinafter termed "Inventors", have invented certain new and useful improvements in

NANO-WIRE RESISTANCE MODEL

as described in:

(1) the attached application, or (if following box is checked):

[] United States application or PCT international application number ______ filed on _____

- (2) U.S. Provisional Patent Application No. 62/430,284, filed on 05 December 2016, entitled NANO-WIRE RESISTANCE MODEL, and having Docket No. SYNP 2984-1;
- (3) U.S. Provisional Patent Application No. 62/431,276, filed on 07 December 2016, entitled NANO-WIRE RESISTANCE MODEL, and having Docket No. SYNP 2984-2;

(hereinafter termed "applications"); and

WHEREAS, Synopsys, Inc., a corporation of Delaware, having a place of business at having a place of business at 690 E. Middlefield Rd., Mountain View, CA 94043 (hereinafter termed "Assignee"), is desirous of acquiring the entire right, title and interest in and to said applications and the invention disclosed therein, and in and to all embodiments of the invention, heretofore conceived, made or discovered by said Inventors (all collectively hereinafter termed "said invention"), and in and to any and all patents, inventor's certificates and other forms of protection (hereinafter termed "patents") thereon granted in the United States and foreign countries.

NOW, THEREFORE, in consideration of good and valuable consideration acknowledged by said Inventors to have been received in full from said Assignee:

1. Said Inventors do hereby sell, assign, transfer and convey unto said Assignee the entire right, title and interest (a) in and to said applications and said invention; (b) in and to all rights to apply for foreign patents (including patent, utility model and industrial design) on said invention pursuant to the International Convention for the Protection of Industrial Property or otherwise, including the right to claim priority from the applications; (c) in and to any and all applications filed and any and all patents granted on said invention in the United States or any foreign country, including each and every application filed and each and every patent granted on any application which is a divisional, substitution, continuation, or continuation-in-part of any of said applications; and (d) in and to each and every reissue or extension of any of said patents.

2. Said Inventors hereby covenant and agree to cooperate with said Assignee to enable said Assignee to enjoy to the fullest extent the right, title and interest herein conveyed in the United States and foreign countries. Such cooperation by said Inventors shall include prompt production of pertinent facts and documents, giving of testimony, execution of petitions, oaths, specifications, declarations or other papers, and other assistance all to the extent deemed necessary or desirable by said Assignee (a) for perfecting in said Assignee the right, title and interest herein conveyed; (b) for prosecuting any of said

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applications; (c) for filing and prosecuting substitute, divisional, continuing or additional applications covering said invention; (d) for filing and prosecuting applications for reissuance of any said patents; (e) for interference or other priority proceedings involving said invention; and (f) for legal proceedings involving said invention and any applications therefor and any patents granted thereon, including without limitation reissues and reexaminations, opposition proceedings, cancellation proceedings, priority contests, public use proceedings, infringement actions and court actions; provided, however, that the expense incurred by said Inventors in providing such cooperation shall be paid for by said Assignee.

3. The terms and covenants of this assignment shall inure to the benefit of said Assignee, its successors, assigns and other legal representatives, and shall be binding upon said Inventors, the Inventors' respective heirs, legal representatives and assigns.

4. Said Inventors hereby warrant and represent that said Inventors have not entered and will not enter into any assignment, contract, or understanding in conflict herewith.

IN WITNESS WHEREOF, said Inventors have executed and delivered this instrument to said Assignee as of the date written below. A

A	
(1) Victor Moroz	
(DVa	
(2) Ibrahim Avci	
Same Same	f e

Date: Nov. 16, 2017

Date: Nov. 16, 2017 Date: Nov. 16, 2017

(3) Shuqing Li

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ASSIGNMENT

WHEREAS, the undersigned,

 Philippe Roussel Deidebloemstraat 16, 3210 Linden-Lubbeck, Belgium

 Ivan Ciofi Toverberg 17, 3001 Heverlee, Belgium

hereinafter termed "Inventors", have invented certain new and useful improvements in

NANO-WIRE RESISTANCE MODEL

as described in:

(1) the attached application, or (if following box is checked):

[] United States application or PCT international application number ______ filed on _____

- (2) U.S. Provisional Patent Application No. 62/430,284, filed on 05 December 2016, entitled NANO-WIRE RESISTANCE MODEL, and having Docket No. SYNP 2984-1;
- (3) U.S. Provisional Patent Application No. 62/431,276. filed on 07 December 2016, entitled NANO-WIRE RESISTANCE MODEL, and having Docket No. SYNP 2984-2:

(hereinafter termed "applications"); and

WHIRBBAS, IMEC VZW, a corporation of Belgium, having a place of business at Kapeldreef 75, Leuven, Belgium, 3001, is desirous of acquiring the entire right, title and interest in and to said applications and the invention disclosed therein, and in and to all embodiments of the invention, heretofore conceived, made or discovered by said Inventors (all collectively hereinafter termed "said invention"), and in and to any and all patents, inventor's certificates and other forms of protection (hereinafter termed "patents") thereon granted in the United States and foreign countries.

WHEREAS, Synopsys, Inc., a corporation of Delaware, having a place of business at baving a place of business at 690 E. Middlefield Rd., Mountain View, CA 94043, hereinafter referred to as "Assignee," is desirous of acquiring all right, title and interest in the inventions and the patent applications, and in any Letters Patent and Registrations which may be granted on the same in any country;

NOW, THEREFORE, for good and valuable consideration acknowledged by said Inventors to have been received in full from IMEC VZW;

1. Said Inventors do hereby sell, assign, transfer and convey unto IMEC VZW, the entire right, title and interest (a) in and to said applications and said invention; (b) in and to all rights to apply for foreign patents (including patent, utility model and industrial design) on said invention pursuant to the International Convention for the Protection of Industrial Property or otherwise, including the right to claim priority from the applications; (c) in and to any and all applications filed and any and all patents granted on said invention in the United States or any foreign country, including each and every application filed and each and every patent granted on any application which is a divisional, substitution, continuation, or continuation-in-part of any of said applications; and (d) in and to each and every reissue or extension of any of said patents.

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2. The terms and covenants of this assignment shall inure to the benefit of IMEC VZW, its successors, assigns and other legal representatives, and shall be binding upon said inventors, the inventors' respective heirs, legal representatives and assigns,

3. Said Inventors hereby warrant and represent that said Inventors have not entered and will not enter into any assignment, contract, or understanding in conflict herewith.

NOW, THEREFORE, for good and valuable consideration, receipt of which is hereby acknowledged by IMEC VZW, IMEC VZW hereby assigns to Assignee all right, title and interest in and to the inventions and the patient applications, and to all foreign counterparts (including patent, utility model and industrial designs), and in and to any Letters Patent and Registrations which may hereafter be granted on any patent application claiming priority from the same in any country, and to claim the priority from the applications from which the patent issued. The right, title and interest is to be held and enjoyed by Assignee and Assignee's successors and assigns as fully and exclusively as it would have been held and enjoyed by IMEC VZW had this Assignment not been made, for the full term of any Letters Patent and Registrations which have been granted and may be granted thereon, or of any division, renewal, continuation in whole or in part, substitution, conversion, reissue, prolongation or extension thereof.

IN WITNESS WHEREOF, said Inventors have executed and delivered this instrument to IMEC VZW as of the date written below.

Deur and	Date: 2017-11.20
(1) Philippe Russel <u>Jve Cusfa</u> (2) Ivan Cioli	Date: 20/11/2017

IN WITNESS WHEREOF, IMEC VZW had executed and delivered this instrument to said Assignce as of the date written below.

IMEC VZW

	C. A	>
< <u>l}y:</u>		
Name:	Anobie Clena	,
Tide:	TP Portfolio & Litigation D.	inclor
Date:	22/11/ Zolf	

SYNOPSYS, INC.

Ву:		r		_
Бу	1			
Name:	J.d.	Jureley	<u> </u>	— . /
Title: VP	_De	why cf	eves	Course
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RECORDED: 12/06/2017