PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2

EPAS ID: PAT4539289

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
ANDREW E. HORCH	07/31/2017
VICTOR MOROZ	07/31/2017
JAMIL KAWA	07/23/2017

RECEIVING PARTY DATA

Name:	SYNOPSYS, INC.	
Street Address:	690 EAST MIDDLEFIELD ROAD	
City:	MOUNTAIN VIEW	
State/Country:	CALIFORNIA	
Postal Code:	94043	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15666445

CORRESPONDENCE DATA

Fax Number: (650)938-5200

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent

using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: 6503357607

FWSynopsysPatents@fenwick.com Email:

JENNIFER GALELA **Correspondent Name:** Address Line 1: FENWICK & WEST LLP Address Line 2: **801 CALIFORNIA STREET**

Address Line 4: MOUNTAIN VIEW, CALIFORNIA 94041

ATTORNEY DOCKET NUMBER:	22524-35959/US	
NAME OF SUBMITTER: JENNIFER GALELA, REG. NO. 74501		
SIGNATURE:	/Jennifer Galela/	
DATE SIGNED: 08/07/2017		

Total Attachments: 4

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> **PATENT** REEL: 043222 FRAME: 0114 504492587

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PATENT REEL: 043222 FRAME: 0115

ASSIGNMENT

For good and valuable consideration, the receipt of which is hereby acknowledged, the person(s) named below (referred to as "INVENTOR" whether singular or plural) has sold, assigned, and transferred and does hereby sell, assign, and transfer to **Synopsys, Inc.**, a Delaware corporation, having a place of business at 690 East Middlefield Road, Mountain View, California 94043 ("ASSIGNEE"), for itself and its successors, transferees, and assignees, the following:

- 1. The entire worldwide right, title, and interest in all inventions and improvements ("SUBJECT MATTER") that are disclosed in the following provisional or non-provisional application filed under 35 U.S.C. § 111, design application filed under 35 U.S.C. § 171, Registered Community Designs, international application filed according to the Patent Cooperation Treaty (PCT), or U.S. national phase application filed under 35 U.S.C. § 371 ("APPLICATION"):
 - Application No. 15/666,445 , entitled "One-Time Programmable Memory Using Rupturing of Gate Insulation," filed on August 1, 2017 .
 - 2. The entire worldwide right, title, and interest in and to:
- (a) the APPLICATION; (b) all applications claiming priority from the APPLICATION; (c) all provisional, utility, divisional, continuation, substitute, renewal, reissue, and other applications related thereto that have been or may be filed in the United States or elsewhere in the world; (d) all patents (including reissues and re-examinations) that may be granted on the applications set forth in (a), (b), and (c) above; and (e) all right of priority in the APPLICATION and in any underlying provisional or foreign application, together with all rights to recover damages for infringement of provisional rights.

INVENTOR agrees that ASSIGNEE may apply for and receive patents for SUBJECT MATTER in ASSIGNEE's own name.

INVENTOR agrees to do the following, when requested, and without further consideration, in order to carry out the intent of this Assignment: (1) execute all oaths, assignments, powers of attorney, applications, and other papers necessary or desirable to fully secure to ASSIGNEE the rights, titles and interests herein conveyed; (2) communicate to ASSIGNEE all known facts relating to the SUBJECT MATTER; and (3) generally do all lawful acts that ASSIGNEE shall consider desirable for securing, maintaining, and enforcing worldwide patent protection relating to the SUBJECT MATTER and for vesting in ASSIGNEE the rights, titles, and interests herein conveyed. INVENTOR further agrees to provide any successor, assign, or legal representative of ASSIGNEE with the benefits and assistance provided to ASSIGNEE hereunder.

INVENTOR represents that INVENTOR has the rights, titles, and interests to convey as set forth herein, and covenants with ASSIGNEE that the INVENTOR has not made and will not hereafter make any assignment, grant, mortgage, license, or other agreement affecting the rights, titles, and interests herein conveyed.

1 of 2

22524/35959/FW/9683966.1

Title:	One-Time Programmable Memory Using Rupturing of Gate Insulation		
Filed:		Attorney Docket #:	22524-
rnea.	August 1, 2017		35959/US
Application #:	15/666,445	Client Ref#:	2973US01

INVENTOR grants the attorney of record the power to insert on this Assignment any further identification that may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office or other authority for recordation of this document.

This Assignment may be executed in one or more counterparts, each of which shall be deemed an original and all of which may be taken together as one and the same Assignment.

Name and Signature	Date of Signature
ANDREW E. HORCH	7/3/19
Name and Signature	Date of Signature
4	7/31/17
VICTOR MOROZ	
Name and Signature	Date of Signature
JAMIL KAWA	

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VICTOR MOROZ	
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J. Kawa	7/23/17

2 of 2

JAMIL KAWA