

PATENT ASSIGNMENT COVER SHEET

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EPAS ID: PAT6128930

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
MING-HUNG CHANG	07/28/2017
ATUL KATOCH	07/28/2017
CHIA-EN HUANG	07/31/2017
CHING-WEI WU	07/28/2017
DONALD G. MIKAN JR.	09/12/2017
HAO-I YANG	07/28/2017
KAO-CHENG LIN	07/28/2017
MING-CHIEN TSAI	07/28/2017
SAMAN M.I. ADHAM	07/28/2017
TSUNG-YUNG CHANG	07/28/2017
UPPU SHARATH CHANDRA	09/13/2017

RECEIVING PARTY DATA

Name:	TAIWAN SEMICONDUCTOR MANUFACTURING CO., LTD.
Street Address:	NO. 8, LI-HSIN RD. 6
Internal Address:	HSINCHU SCIENCE PARK
City:	HSINCHU
State/Country:	TAIWAN
Postal Code:	300-77

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15700877

CORRESPONDENCE DATA

Fax Number: (202)371-2540

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.

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Correspondent Name: STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

Address Line 1: 1100 NEW YORK AVENUE, NW

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ATTORNEY DOCKET NUMBER:	4630.1080001
NAME OF SUBMITTER:	MICHAEL R. MALEK
SIGNATURE:	/Michael R. Malek, Reg. No.: 65,211/
DATE SIGNED:	05/29/2020

Total Attachments: 12

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ASSIGNMENT

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(a) in the invention(s) known as **SCAN SYNCHRONOUS-WRITE-THROUGH TESTING ARCHITECTURES FOR A MEMORY DEVICE** for which application(s) for patent in the United States of America has a filing date or a 371(c) date of *Herewith* (also known as United States Application No. *To Be Assigned*), in any and all applications thereon, in any and all Letters Patent(s) therefor, and

(b) in any and all applications that claim the benefit of the patent application listed above in part (a), including non-provisional applications, continuing (continuation, divisional, or continuation-in-part) applications, reissues, extensions, renewals and reexaminations of the patent application or Letters Patent therefor listed above in part (a), to the full extent of the term or terms for which Letters Patents issue, and

(c) in any and all inventions described in the patent application listed above in part (a), and in any and all forms of intellectual and industrial property protection derivable from such patent application, and that are derivable from any and all continuing applications, reissues, extensions, renewals and reexaminations of such patent application, including, without limitation, patents, applications, utility models, inventor's certificates, and designs together with the right to file applications therefor; and including the right to claim the same priority rights from any previously filed applications under the International Agreement for the Protection of Industrial Property, or any other international agreement, or the domestic laws of the country in which any such application is filed, as may be applicable;

all such rights, title and interest to be held and enjoyed by the above-named Assignee, its successors, legal representatives and assigns to the same extent as all such rights, title and interest would have been held and enjoyed by the undersigned inventors had this assignment and sale not been made.

The undersigned inventors agree to execute all papers necessary in connection with the application(s) and any non-provisional, continuing (continuation, divisional, or continuation-in-part), reissue, reexamination or corresponding application(s) thereof and also to execute separate

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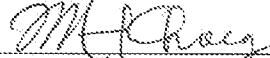
The undersigned inventors hereby represent that he/she has full right to convey the entire interest herein assigned, and that he/she has not executed, and will not execute, any agreement in conflict therewith.

The undersigned inventors hereby grant the patent practitioners associated with **CUSTOMER NUMBER 134593** the power to insert in 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 for recordation of this document.

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IN WITNESS WHEREOF, executed by the undersigned inventors on the date opposite his/her name.

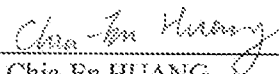
Date: 2017, 07, 28

Signature of Inventor: 
Ming-Hung CHANG

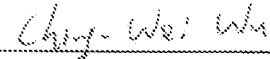
Date: _____

Signature of Inventor: _____
Atul KATOCH

Date: 2017, 7, 31

Signature of Inventor: 
Chia-En HUANG

Date: 2017, 7, 28

Signature of Inventor: 
Ching-Wei WU

Date: _____

Signature of Inventor: _____
Donald G. MIKAN JR.

Date: 2017.7.28

Signature of Inventor: Hao-I Yang
Hao-I YANG

Date: 2017.7.28

Signature of Inventor: Kao Cheng Lin
Kao-Cheng LIN

Date: 2017.7.28

Signature of Inventor: Ming-Chien Tsai
Ming-Chien TSAI

Date: _____

Signature of Inventor: _____
Saman M. I. ADHAM

Date: 2017.7.28

Signature of Inventor: Tsung-Yung Chang
Tsung-Yung CHANG

Date: _____

Signature of Inventor: _____
Uppu Sharath CHANDRA

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ASSIGNMENT

In consideration of the sum of One Dollar (\$1.00) or equivalent and other good and valuable consideration paid to each of the undersigned inventors: **Ming-Hung CHANG, Atul KATOCH, Chia-En HUANG, Ching-Wei WU, Donald G. MIKAN JR., Hao-I YANG, Kao-Cheng LIN, Ming-Chien TSAI, Saman M. I. ADHAM, Tsung-Yung CHANG** and **Uppu Sharath CHANDRA**, hereby sell and assign to **Taiwan Semiconductor Manufacturing Co., Ltd.**, a corporation formed under the laws of Taiwan, Republic of China, whose mailing address is No. 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu, Taiwan, Republic of China 300-77 (hereafter referred to as the Assignee), his/her entire right, title and interest, including the right to sue for past infringement and to collect for all past, present and future damages, for the United States of America (as defined in 35 U.S.C. § 100) and throughout the world,

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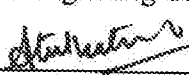
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IN WITNESS WHEREOF, executed by the undersigned inventors on the date opposite his/her name.

Date: _____	Signature of Inventor: _____ Ming-Hung CHANG
Date: <u>28/7/2017</u>	Signature of Inventor: <u></u> Atul KATOCH
Date: _____	Signature of Inventor: _____ Chia-En HUANG
Date: _____	Signature of Inventor: _____ Ching-Wei WU
Date: _____	Signature of Inventor: _____ Donald G. MIKAN JR.

Date: _____ Signature of Inventor: _____
Hao-I YANG

Date: _____ Signature of Inventor: _____
Kao-Cheng LIN

Date: _____ Signature of Inventor: _____
Ming-Chien TSAI

Date: _____ Signature of Inventor: _____
Saman M. I. ADHAM

Date: _____ Signature of Inventor: _____
Tsung-Yung CHANG

Date: _____ Signature of Inventor: _____
Uppu Sharath CHANDRA

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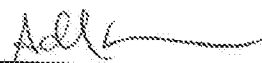
Date: _____ Signature of Inventor: _____
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Hao-I YANG

Date: _____ Signature of Inventor: _____
Kao-Cheng LIN

Date: _____ Signature of Inventor: _____
Ming-Chien TSAI

Date: 28/07/2017 Signature of Inventor: 
Saman M. I. ADHAM

Date: _____ Signature of Inventor: _____
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Date: _____ Signature of Inventor: _____
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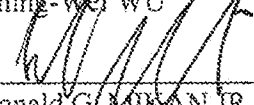
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Date: _____ Signature of Inventor: _____
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Date: _____ Signature of Inventor: _____
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Date: _____ Signature of Inventor: _____
Chia-En HUANG

Date: _____ Signature of Inventor: _____
Ching-Wei WU

Date: 9/12/2017 Signature of Inventor: 
Donald G. MIRAN JR.

Appl. No. To Be Assigned
Atty. Docket No. 4630.1080001

Date: _____ Signature of Inventor: _____
Hao-I YANG

Date: _____ Signature of Inventor: _____
Kao-Cheng LIN

Date: _____ Signature of Inventor: _____
Ming-Chien TSAI

Date: _____ Signature of Inventor: _____
Saman M. I. ADHAM

Date: _____ Signature of Inventor: _____
Tsung-Yung CHANG

Date: 9/13/2019 Signature of Inventor: *U. Sharath Chandra*
Uppu Sharath CHANDRA

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