506476057 01/29/2021

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
SEID HADI RASOULI	01/26/2021
JERRY CHANG JUI KAO	11/11/2020
XIANGDONG CHEN	11/11/2020
TZU-YING LIN	11/11/2020
YUNG-CHEN CHIEN	11/19/2020
SHAO-LUN CHIEN	01/13/2021

RECEIVING PARTY DATA

Name:	TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY, LTD.
Street Address:	NO. 8, LI-HSIN RD. 6,
Internal Address:	HSINCHU SCIENCE PARK
City:	HSINCHU
State/Country:	TAIWAN
Postal Code:	300-78

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	17026423

CORRESPONDENCE DATA

Fax Number: (212)755-7306

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: 212-326-3939

Email: japarker@jonesday.com, erosenfelder@jonesday.com

Correspondent Name: JONES DAY

Address Line 1: 250 VESEY STREET

Address Line 4: NEW YORK, NEW YORK 10281-1047

ATTORNEY DOCKET NUMBER:	181877-625457
NAME OF SUBMITTER:	MATTHEW W. JOHNSON
SIGNATURE:	/Matthew W. Johnson/
DATE SIGNED:	01/29/2021

PATENT REEL: 055072 FRAME: 0292

Total Attachments: 6 source=625457_S_DeclAssign#page1.tif source=625457_S_DeclAssign#page2.tif source=625457_S_DeclAssign#page3.tif source=625457_S_DeclAssign#page4.tif

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PATENT REEL: 055072 FRAME: 0293

Docket Number: P20191507US01(181877-625457)

NP-26039-0-US-BZ

DECLARATION AND ASSIGNMENT

Title of Invention: LOW HOLD MULTI-BIT FLIP FLOP

As a below named inventor, or one of the below named joint inventors, I hereby declare that:

This declaration and assignment is directed to the application attached hereto. If the application is not attached hereto, the application is as identified by the attorney docket number as set forth above and/or the following:

United States Application No. or PCT International Application No.: ______, filed on ______.

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I have reviewed and understand the contents of the above-identified application, including the claims.

I am aware of the duty to disclose to the U.S. Patent and Trademark Office all information known to me to be material to patentability as defined in 37 C.F.R. §1.56.

All statements made of my own knowledge are true and all statements made on information and belief are believed to be true.

I hereby acknowledge that any willful false statement made in this declaration may jeopardize the validity of the application or any patent issuing thereon and is punishable under 18 U.S.C. §1001 by fine or imprisonment of not more than five (5) years, or both.

The above-identified invention shall henceforth be referred to herein as the "INVENTION" and the above-identified application shall henceforth be referred to herein as the "APPLICATION."

Taiwan Semiconductor Manufacturing Company, Ltd., a corportion organized and existing under the laws of Taiwan, with its principal office at 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu, 300-78, and its heirs, successors, legal representatives and assigns shall henceforth be referred to collectively herein as ASSIGNEE.

For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, I have assigned and do hereby assign to ASSIGNEE, its successors and assigns, my entire right, title and interest in and to said INVENTION and in and to said APPLICATION and all patents which may be granted therefor, and all future non-provisional applications including, but not limited to, divisions, reissues, substitutions, continuations, and extensions thereof; and I hereby authorize and request the Commissioner for Patents to issue all patents for said INVENTION, or patents resulting therefrom, insofar as my interest is concerned, to ASSIGNEE, as assignee of my entire right, title and interest. I declare that I have not executed and will not execute any agreement in conflict herewith.

Additionally, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, I have also assigned and hereby assign to ASSIGNEE, its successors and assigns, all of my rights to the INVENTION disclosed in said APPLICATION, in all countries of the world, including, but not limited to, the right to file applications and obtain patents under the terms of the International Convention for the Protection of Industrial Property, and of the European Patent Convention, and I further agree to execute any and all patent applications, assignments, affidavits, and any other papers in connection therewith necessary to perfect such rights.

I hereby further agree that I will communicate to ASSIGNEE, or to its successors, assigns, and legal representatives, any facts known to me respecting said INVENTION or the file history thereof, and at the expense of ASSIGNEE, its legal representatives, successors, or assigns, will testify in any legal proceedings, sign all lawful papers, execute all divisional continuation, reissue and substitute applications, make all lawful oaths, and generally do everything possible to aid ASSIGNEE, its legal representatives, successors, and assigns, to obtain and enforce proper patent protection for said invention in all countries.

I hereby grant the attorney of record the power to insert on this document 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.

IN WITNESS WHEREOF, I hereunto set my hand and seal this day and year.

NAME OF INVENTOR (Full Legal Name): Seid Hadi Rasouli

Signature _____

PATENT REEL: 055072 FRAME: 0295 I hereby further agree that I will communicate to ASSIGNEE or to its successors, assigns and legal representatives, any facts known to me respecting said INVENTION or the file history thereof, and at the expense of ASSIGNEE, its legal representatives, successors, or assigns, will testify in any legal proceedings, sign all lawful papers, execute all divisional continuation reissue and substitute applications, make all lawful oaths, and generally do everything possible to aid ASSIGNEE, its legal representatives, successors, and assigns, to obtain and enforce proper patent protection for said invention in all countries.

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IN WITNESS WHEREOF. I hereunto set my hand and seal this day and year.

NAME OF INVENTOR (Full Legal Name): Hadi Ra	souls (seid Hads Rasont
Signature: 1/2 C (1600)	Date: <u>01/151-202</u> 1
NAME OF INVENTOR (Full Legal Name) - <u>lerry Ch</u>	nang Jui KAO
Signature:	Date:
NAME OF INVENTOR (Full Legal Name): Xiangdo	ong CHEN
Signature:	Date:
NAME OF INVENTOR (Full Legal Name) : Tzu-Yir	ng LIN
Signature	Date:
NAME OF INVENTOR (Full Legal Name) : Yung-C	Then CHIEN
Signature	Date:
NAME OF INVENTOR (Full Legal Name) : SHAO-	<u>LUN CHIEN</u>
Signatures	Date:

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IN WITNESS WHEREOF, I hereunto set my hand and seal this day and year.

NAME OF INVENTOR (Full Legal Name): Hadi Rasouli	
Signature:	Date:
NAME OF INVENTOR (Full Legal Name): Jerry Chang Jui KAO	
Signature:	Date: 2020/11/11
NAME OF INVENTOR (Full Legal Name): Xiangdong CHEN	
Signature:	Date:
NAME OF INVENTOR (Full Legal Name): Tzu-Ying LIN	
Signature: Tzu-Ying, Lin	Date: 2020, 11_11
NAME OF INVENTOR (Full Legal Name) : Yung-Chen CHIEN	
Signature: Yung-Chen Chien	Date: 2020. 11, 19
NAME OF INVENTOR (Full Legal Name): SHAO-LUN CHIEN	
Signature:	Date:

I hereby further agree that I will communicate to ASSIGNEE, or to its successors, assigns, and legal representatives, any facts known to me respecting said INVENTION or the file history thereof, and at the expense of ASSIGNEE, its legal representatives, successors, or assigns, will testify in any legal proceedings, sign all lawful papers, execute all divisional, continuation, reissue and substitute applications, make all lawful oaths, and generally do everything possible to aid ASSIGNEE, its legal representatives, successors, and assigns, to obtain and enforce proper patent protection for said invention in all countries.

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NAME OF INVENTOR (Full Legal Name): <u>Hadi Rasouli</u>		
Signature:	Date: _	
NAME OF INVENTOR (Full Legal Name): Jerry Chang Jui KAO		
Signature:	Date: _	
NAME OF INVENTOR (Full Legal Name): Xiangdong CHEN		
Signature:	Date: _	11/11/2020
NAME OF INVENTOR (Full Legal Name): <u>Tzu-Ying LIN</u>		
Signature:	Date: _	
NAME OF INVENTOR (Full Legal Name): Yung-Chen CHIEN		
Signature:	Date: _	
NAME OF INVENTOR (Full Legal Name): SHAO-LUN CHIEN		
Signature:	Date: _	

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Signature:	Date:
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Signature:	Date:
NAME OF INVENTOR (Full Legal Name): Tzu-Ying LIN	
Signature:	Date:
NAME OF INVENTOR (Full Legal Name): Yung-Chen CHIEN	
Signature:	Date:
NAME OF INVENTOR (Full Legal Name): SHAO-LUN CHIEN	
Signature: Shar- Cun Apren	Date: 1/13/2021
	Chien

Page 2 of 2