504981116 06/28/2018

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date	
SHIH-LIEN LINUS LU	05/15/2018	
CORMAC MICHAEL O'CONNELL	05/15/2018	
KUN-HSI LI	06/04/2018	

RECEIVING PARTY DATA

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

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15980767

CORRESPONDENCE DATA

Fax Number: (510)580-7280

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: JCIPRNET

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ATTORNEY DOCKET NUMBER:	77431-US-PA
NAME OF SUBMITTER:	BELINDA LEE
SIGNATURE:	/Belinda Lee/
DATE SIGNED:	06/28/2018

Total Attachments: 4

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> **PATENT** REEL: 046222 FRAME: 0401

than five (5) years, or both.



DECLARATION AND ASSIGNMENT FOR UTILITY OR DESIGN PATENT APPLICATION

Declaration Submitted With Initial Filing	
OR	
☐ Declaration Submitted After Initial Filing (surcharge 37 CFR 1.16(f) required)
(Title of the Inv	rention)
PHYSICAL UNCLONABLE DEVICE AI EXISTING PROCESS VARIATIO UNCLONABLE	ON FOR A PHYSICALLY
As a below named inventor (hereinafter des	ignated as the undersigned), I hereby
declare that:	
This declaration is directed to:	
☐ The attached application,	
OR	
☐ United States Application Number or PCT I	nternational application number
Filed on	
The above-identified application was made or	authorized to be made by me.
I believe I am the original inventor or an originathe application.	al joint inventor of a claimed invention in
The undersigned hereby acknowledge that any declaration is punishable under 18 U.S.C. 100	

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PATENT REEL: 046222 FRAME: 0402

DECLARATION AND ASSIGNMENT

FOR UTILITY OR DESIGN PATENT APPLICATION

WHEREAS, the undersigned has invented certain new and useful improvements described in the application identified.

WHEREAS 1. Taiwan Semiconductor Manufacturing Co., Ltd.

of No.8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu, Taiwan 300-78, R.O.C.

hereinafter referred to as ASSIGNEE, is desirous of acquiring the undersigned's interest in the said invention and application and in any U.S. Letters Patent which may be granted on the same:

NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN: Be it known that, for good and valuable consideration, receipt of which is hereby acknowledged by the undersigned, the undersigned has/have sold, assigned and transferred, and by these presents does/do sell, assign and transfer unto the said Assignee, and Assignee's successors and assigns, all his/her/their rights, title and interest in and to the said invention and application and all future improvements thereon, and in and to any Letters Patent which may hereafter be granted on the same in the United States, the said rights, title and interest to be held and enjoyed by said Assignee as fully and exclusively as it would have been held and enjoyed by said the undersigned had this Assignment and transfer not been made, to the full end and term of any Letters Patent which may be granted thereon, or of any division, renewal, continuation in whole or in part, substitution, conversion, reissue, prolongation or extension thereof.

The undersigned further agrees/agree that he/she/they will, without charge to said Assignee, but at Assignee's expense, cooperate with Assignee in the prosecution of said application and/or applications, execute, verify, acknowledge and deliver all such further papers, including applications for Letters Patent and for the reissue thereof, and instruments of assignment and transfer thereof, and will perform such other acts as Assignee Lawfully may request, to obtain or maintain Letters Patent for said invention and improvement, and to vest title thereto in said Assignee, or Assignee's successors and assigns.

DECLARATION AND ASSIGNMENT FOR UTILITY OR DESIGN PATENT APPLICATION

Signature:	tatitu	L	Date:	May	15 ,	2018
Legal Name of Sc	ele or First Inventor: Sh	nih-Lien Linus Lu		,		
Residence: Hsind	chu, Taiwan					
Mailing Address:	c/o No.8, Li-Hsin Rd.	6, Hsinchu Science	Park, H	sinchu, Tai	wan 300-7	8, R.O.C.
Signature:	Zucc O oce	al	Date:	Ma	415,	7018
Legal Name of Ad	Iditional Joint Inventor	, if any: Cormac Mic	hael O'C	Connell	ι	
Residence: Onta	rio, Canada					
Mailing Address:	c/o No.8, Li-Hsin Rd.	6, Hsinchu Science	Park, H	sinchu, Tai	wan 300-7	8, R.O.C.
Signature:			Date:			
Legal Name of Ad	lditional Joint Inventor	, if any: Kun-Hsi Li				
Residence: Hsind	chu, Taiwan					
Mailing Address:	c/o No.8. Li-Hsin Rd.	6. Hsinchu Science	Park. Hs	sinchu. Tai	wan 300-7	8 R.O.C

RECORDED: 06/28/2018



DECLARATION AND ASSIGNMENT FOR UTILITY OR DESIGN PATENT APPLICATION

Signature:	Date:		
Legal Name of Sole or First Inventor: Shih-Lien Linus Lu			
Residence: Hsinchu, Taiwan			
Mailing Address: c/o No.8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu, Taiwan 300-78, R.O.C.			
Signature:	Date:		
Legal Name of Additional Joint Inventor, if any: Cormac Michael O'Connell			
Residence: Ontario, Canada			
Mailing Address: c/o No.8, Li-Hsin Rd. 6, Hsinchu Science F	Park, Hsinchu, Taiwan 300-78, R.O.C.		
Signature:	Date: 6/4/2018		
Legal Name of Additional Joint Inventor, if any: Kun-Hsi Li	<u> </u>		
Residence: Hsinchu, Taiwan			
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PATENT REEL: 046222 FRAME: 0405