

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT4018598

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
CHAN-HONG CHERN	06/22/2015
TSUNG -CHING HUANG	08/07/2015
CHIH-CHANG LIN	06/22/2015
MING-CHIEH HUANG	06/22/2015
FU-LUNG HSUEH	08/03/2015
RECEIVING PARTY DATA	
Name:	TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY, LTD.
Street Address:	NO. 8, LI-HSIN RD. VI, HSINCHU SCIENCE PARK
City:	HSINCHU
State/Country:	TAIWAN
Postal Code:	300
PROPERTY NUMBERS Total: 1	
Property Type	Number
Application Number:	15244152
CORRESPONDENCE DATA	
Fax Number:	(703)518-5499
<i>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.</i>	
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ATTORNEY DOCKET NUMBER:	T5057-1135A
NAME OF SUBMITTER:	RANDY A. NORANBROCK
SIGNATURE:	/Randy A. Noranbrock/
DATE SIGNED:	08/23/2016
Total Attachments: 3	

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ASSIGNMENT

In consideration of the premises and other good and valuable consideration in hand paid, the receipt and sufficiency of which is hereby acknowledged, the undersigned,

- | | |
|-----------------------|---------------------|
| 1) Chan-Hong CHERN | 4) Ming-Chieh HUANG |
| 2) Tsung -Ching HUANG | 5) Fu-Lung HSUEH |
| 3) Chih-Chang LIN | |

who has made a certain new and useful invention, hereby sells, assigns and transfers unto TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY, LTD., having a place of business at No. 8, Li-Hsin Rd. VI, Hsinchu Science Park, Hsinchu 300, Taiwan R.O.C.

its successors and assigns (hereinafter designated "ASSIGNEE") the entire right, title and interest for the United States of America as defined in 35 U.S.C. 100 in the invention entitled

INPUT/OUTPUT CIRCUIT

(a) for which an application for United States Letters Patent was filed on 2015-02-25 and identified by United States Patent Application No. 14/630,934; or

(b) for which an application for United States Letters Patent was executed on _____.

and the undersigned hereby authorizes and requests the United States Commissioner of Patents and Trademarks to issue any and all United States Letters Patent which may be granted therefore and any and all extensions, divisions, reissues, continuations, or continuations-in-part thereof, and the right to all benefits under the International Convention for the Protection of Industrial Property to the said ASSIGNEE, for its interest as ASSIGNEE, its successors, assigns and legal representatives; the undersigned agrees that the attorneys of record in said application shall hereafter act on behalf of said ASSIGNEE;

AND the undersigned hereby agrees to transfer a like interest, and to render all necessary assistance in making application for and obtaining original, divisional, reissued or extended Letters Patent of the United States, upon request of the said ASSIGNEE, its successors, assigns and legal representatives, and without further remuneration, in and to any improvements, and applications for patent based thereon, growing out of or related to the said invention; and to execute any papers by the said ASSIGNEE, its successors, assigns and legal representatives, deemed essential to ASSIGNEE's full protection and title in and to the invention hereby transferred.

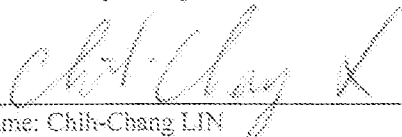
SIGNED on the date indicated aside my signature:


Name: Chan-Hong CHERN

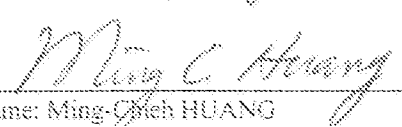
6/22/2015
Date:

2) _____
Name: Tsung -Ching HUANG

Date:

3) 
Name: Chih-Chang LIN

06/22/2015
Date:

4) 
Name: Ming-Chieh HUANG

06/22/2015
Date:

5) _____
Name: Fu-Lung HSUEH

Date:

Docket No. P20141047US00
TS057-1135

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AND the undersigned hereby agrees to transfer a like interest, and to render all necessary assistance in making application for and obtaining original, divisional, reissued or extended Letters Patent of the United States, upon request of the said ASSIGNEE, its successors, assigns and legal representatives, and without further remuneration, in and to any improvements, and applications for patent based thereon, growing out of or related to the said invention; and to execute any papers by the said ASSIGNEE, its successors, assigns and legal representatives, deemed essential to ASSIGNEE's full protection and title in and to the invention hereby transferred.

SIGNED on the date indicated aside my signature:

- 1) _____
Name: Chan-Hong CHERN Date: _____
- 2)  _____
Name: Tsung -Ching HUANG Date: 8/9/2015
- 3) _____
Name: Chih-Chang LIN Date: _____
- 4) _____
Name: Ming-Chieh HUANG Date: _____
- 5) _____
Name: Fu-Lung HSUEH Date: _____

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Name: Chan-Hong CHERN

2) _____ Date: _____
Name: Tsung -Ching HUANG

3) _____ Date: _____
Name: Chih-Chang LIN

4) _____ Date: _____
Name: Ming-Chieh HUANG

5)  _____ Date: August 3, 2015
Name: Fu-Lung HSUEH