502696274 02/26/2014

PATENT ASSIGNMENT COVER SHEET

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EPAS ID: PAT2742879

| SUBMISSION TYPE: | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT |

CONVEYING PARTY DATA

| Name | Execution Date |
|---------------|----------------|
| CHIEN-NAN TU | 02/05/2014 |
| YU-LUNG YEH | 02/05/2014 |
| MING-HSIEN WU | 02/05/2014 |

RECEIVING PARTY DATA

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

PROPERTY NUMBERS Total: 1

| Property Type | Number | |
|---------------------|----------|--|
| Application Number: | 14161357 | |

CORRESPONDENCE DATA

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| ATTORNEY DOCKET NUMBER: | 0941-2911PUS1 |
|-------------------------|--------------------|
| NAME OF SUBMITTER: | MUSSIÉ B. BEYENE |
| Signature: | /Mussié B. Beyene/ |
| | PATENT |

502696274 REEL: 032298 FRAME: 0929

| Date: | 02/24/2014 |
|--|------------|
| Total Attachments: 2 source=0503-A38263US-D+A#page1.tif source=0503-A38263US-D+A#page2.tif | |

PATENT REEL: 032298 FRAME: 0930

ASSIGNMENT

WHEREAS, Chien-Nan TU, Yu-Lung YEH, and Ming-Hsien WU

hereafter referred to as ASSIGNOR, has/have invented certain new and useful improvements as described and set forth in the below identified application for United States Letters Patent:

Title: IMAGE-SENSOR DEVICE AND METHOD OF MANUFACTURING THE SAME

| Filed: | January 22, 2014 | Serial No. | 14/161,357 | |
|----------|----------------------|------------|------------|--|
| Executed | on: February 5, 2014 | | | |

WHEREAS, <u>Taiwan Semiconductor Manufacturing Co., Ltd.</u> of <u>No.8</u>, <u>Li-Hsin Road. 6</u>, <u>Science-Based Industrial Park, Hsin-Chu, Taiwan 300-77</u>, <u>R.O.C.</u> hereinafter referred to as ASSIGNEES, is desirous of acquiring ASSIGNOR'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 Assignor, Assignor 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 interest to be held and enjoyed by said Assignee as fully and exclusively as it would have been held and enjoyed by said Assignor 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.

Assignor 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.

IN TESTIMONY WHEREOF, Assignor has/have signed his/her/their name(s) on the date(s) indicated.

TSMC2013-1426/0503-A38263US

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ASSIGNMENT

2014.2.5 Qien - Nan Tu

Name: Chien-Nan TU (Last name: TU)

Date

Ju-Lung Yeh

Name: Yu-Lung YEH (Last name: YEH)

Date Ming-Hsien WU (Last name: WU)

PATENT REEL: 032298 FRAME: 0932