502228802 02/12/2013

PATENT ASSIGNMENT

Electronic Version v1.1 Stylesheet Version v1.1

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

CONVEYING PARTY DATA

| Name | Execution Date | |
|---------------------|----------------|--|
| Annie-Li-Keow LUM | 01/29/2013 | |
| Kuoyuan (Peter) HSU | 01/29/2013 | |

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: | 13765384 |

CORRESPONDENCE DATA

Fax Number: 7035185499

Correspondence will be sent via US Mail when the fax attempt is unsuccessful.

Phone: 7036841111
Email: tsmc@ipfirm.com

Correspondent Name: Lowe Hauptman Ham & Berner, LLP (TSMC)

Address Line 1: 2318 Mill Road Address Line 2: Suite 1400

Address Line 4: Alexandria, VIRGINIA 22314

ATTORNEY DOCKET NUMBER: T5057-851U

NAME OF SUBMITTER: Randy A. Noranbrock

Total Attachments: 1

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PATENT REEL: 029799 FRAME: 0168 OF \$40.00 13/6538

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Docket No. T5057-851U TSMC:2012-0837

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) Annie-Li-Keow LUM
- 2) Kuoyuan (Peter) HSU

who has made a certain new and useful invention, hereby sells, assigns and transfers unto TAIWAN SEMICONDUCTOR MANUFACT JRING 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

<u>VOLTAGE BATTERY</u>

| (a) | for which an application for United States Letters Patent was filed on | 2013-02-12 | and | identified | by |
|-----|--|------------|-----|------------|----|
| | United States Patent Application No. 13/765, 384 | ; 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:

1)

Name: Annie-Li Keow LUM

Date:

Name: Kuoyuan (Petere) HeU

Date:

PATENT REEL: 029799 FRAME: 0169

RECORDED: 02/12/2013