

PATENT ASSIGNMENT

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SUBMISSION TYPE:	NEW ASSIGNMENT										
NATURE OF CONVEYANCE:	ASSIGNMENT										
CONVEYING PARTY DATA											
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 70%;">Name</th> <th style="width: 30%;">Execution Date</th> </tr> </thead> <tbody> <tr> <td>Hung-Jui KUO</td> <td>02/23/2010</td> </tr> <tr> <td>Chung-Shi LIU</td> <td>02/23/2010</td> </tr> <tr> <td>Chen-Hua YU</td> <td>02/23/2010</td> </tr> </tbody> </table>		Name	Execution Date	Hung-Jui KUO	02/23/2010	Chung-Shi LIU	02/23/2010	Chen-Hua YU	02/23/2010		
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CORRESPONDENCE DATA											
Fax Number: (703)518-5499 <i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i> Phone: 7036841111 Email: sramunto@ipfirm.com Correspondent Name: LOWE HAUPTMAN HAM & BERNER, LLP Address Line 1: 1700 DIAGONAL ROAD Address Line 2: SUITE 300 Address Line 4: ALEXANDRIA, VIRGINIA 22314											
ATTORNEY DOCKET NUMBER:	T5057-K179										
NAME OF SUBMITTER:	Randy A. Noranbrock										
Total Attachments: 1 source=efiledassgn4-14-10#page1.tif											

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PATENT
REEL: 024232 FRAME: 0645

Docket No. T5057-K179

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) **Hung-Jui KUO**
- 2) **Chung-Shi LIU**
- 3) **Chen-Hua YU**

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, Taiwan 300, 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

CONDUCTIVE PILLAR STRUCTURE FOR SEMICONDUCTOR SUBSTRATE AND METHOD OF MANUFACTURE

(a) for which an application for United States Letters Patent was filed on February 16, 2010, and identified by United States Patent Application No. 12/706,086; 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) Hung-Jui KUO
Name: **Hung-Jui KUO**

2) Chung-Shi LIU
Name: **Chung-Shi LIU**

3) Chen-Hua YU
Name: **Chen-Hua YU**

2010-02-23
Date: _____

2010-02-23
Date: _____

2010-2-23
Date: _____