

**PATENT ASSIGNMENT**

Electronic Version v1.1  
 Stylesheet Version v1.1

SUBMISSION TYPE:	NEW ASSIGNMENT												
NATURE OF CONVEYANCE:	ASSIGNMENT												
<b>CONVEYING PARTY DATA</b>													
<table border="1"> <thead> <tr> <th>Name</th> <th>Execution Date</th> </tr> </thead> <tbody> <tr> <td>Wei Min CHAN</td> <td>05/12/2010</td> </tr> <tr> <td>Yen-Huei CHEN</td> <td>05/12/2010</td> </tr> <tr> <td>Chen-Lin YANG</td> <td>05/12/2010</td> </tr> <tr> <td>Hsiu-Hui YANG</td> <td>05/12/2010</td> </tr> <tr> <td>Shao-Yu CHOU</td> <td>05/12/2010</td> </tr> </tbody> </table>		Name	Execution Date	Wei Min CHAN	05/12/2010	Yen-Huei CHEN	05/12/2010	Chen-Lin YANG	05/12/2010	Hsiu-Hui YANG	05/12/2010	Shao-Yu CHOU	05/12/2010
Name	Execution Date												
Wei Min CHAN	05/12/2010												
Yen-Huei CHEN	05/12/2010												
Chen-Lin YANG	05/12/2010												
Hsiu-Hui YANG	05/12/2010												
Shao-Yu CHOU	05/12/2010												
<b>RECEIVING PARTY DATA</b>													
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												
<b>PROPERTY NUMBERS Total: 1</b>													
<table border="1"> <thead> <tr> <th>Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>Application Number:</td> <td>12786791</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	12786791								
Property Type	Number												
Application Number:	12786791												
<b>CORRESPONDENCE DATA</b>													
Fax Number:	(215)689-3797												
<i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i>													
Phone:	215-979-1842												
Email:	jsjiulianti@duanemorris.com												
Correspondent Name:	DUANE MORRIS LLP (TSMC) IP DEPARTMENT												
Address Line 1:	30 SOUTH 17TH STREET												
Address Line 4:	PHILADELPHIA, PENNSYLVANIA 19103-4196												
ATTORNEY DOCKET NUMBER:	N1085-00672												
NAME OF SUBMITTER:	Joseph A. Powers												

CH \$40.00 12786791

**Total Attachments: 3**

source=EXECUTEDASSIGNMENT#page1.tif

source=EXECUTEDASSIGNMENT#page2.tif

source=EXECUTEDASSIGNMENT#page3.tif

Serial No. 12/786,791  
filed May 25, 2010

ATTORNEY DOCKET NO.: 2010.0182/1085.672

### ASSIGNMENT AND AGREEMENT

For value received, we, **Wei Min Chan, Yen-Huei Chen, Chen-Lin Yang, Hsiu-Hui Yang and Shao-Yu Chou**, hereby transfer to **Taiwan Semiconductor Manufacturing Co., Ltd.**, with its principal place of business located at No. 8, Li-Hsin Road 6, Science-Based Industrial Park, Hsin-Chu, Taiwan 300-77, Republic of China, and its successors, assigns and legal representatives, the entire right, title and interest, for the United States of America, in and to certain inventions related to **MEMORY WORD-LINE DRIVER HAVING REDUCED POWER CONSUMPTION** described in a non-provisional application and under any and all Letters Patent and any divisions, continuations, continuations-in-part, reexamination certificates, reissues, and extensions thereof, or claiming priority therefrom that may be granted in the United States for said inventions; and we also concurrently hereby sell, assign and transfer to Taiwan Semiconductor Manufacturing Co., Ltd. the entire right, title and interest in and to said inventions for all countries foreign to the United States, including all rights of priority arising from the application aforesaid, and all the rights and privileges under any and all forms of protection, including Letters Patent, that may be granted in said countries foreign to the United States for said inventions.

We authorize Taiwan Semiconductor Manufacturing Co., Ltd. to make application for such protection in its own name and maintain such protection in any and all countries foreign to the United States, and to invoke and claim for any application for patent or other form of protection for said inventions, without further authorization from us, any and all benefits, including the right of priority provided by any and all treaties, conventions, or agreements.

We hereby consent that a copy of this assignment shall be deemed a full legal and formal equivalent of any document which may be required in any country in proof of the right of Taiwan Semiconductor Manufacturing Co., Ltd. to apply for patent or other form of protection for said inventions and to claim the aforesaid benefit of the right of priority.

We request that any and all patents for said inventions be issued to Taiwan Semiconductor Manufacturing Co., Ltd. in the United States and in all countries foreign to the United States, or to such nominees as Taiwan Semiconductor Manufacturing Co., Ltd. may designate.

ATTORNEY DOCKET NO.: 2010.0182/1085.672

We agree that, when requested, we shall, without charge to Taiwan Semiconductor Manufacturing Co., Ltd. but at its expense, sign all papers, and do all acts which may be necessary, desirable or convenient in connection with said applications, patents, or other forms of protection.

Inventor No. 1

Dated: 2010/05/12

Wei Min Chan  
Wei Min Chan

Residence:

1F., No. 20, Lane 93, Sinhe Street, Sindian City, Taipei County 231, Taiwan, R.O.C.

Inventor No. 2

Dated: 2010/05/12

Yen-Huei Chen  
Yen-Huei Chen

Residence:

No. 21, Lane 335, Syuefu E. Road, Jhudong Township, Hsinchu County 31055, Taiwan, R.O.C.

Inventor No. 3

Dated: 2010/05/12

Chen-Lin Yang  
Chen-Lin Yang

Residence:

6F., No. 137, Fuxing 1<sup>st</sup> Street, Zhubei City, Hsinchu County 302, Taiwan, R.O.C.

ATTORNEY DOCKET NO.: 2010.0182/1085.672

Inventor No. 4

Dated: 2010/5/12

Hsiu-Hui Yang  
Hsiu-Hui Yang

Residence:

No. 68, Qingshui Street, Qingshui Township, Taichung County 436, Taiwan, R.O.C.

Inventor No. 5

Dated: 2010/5/12

Shao-Yu Chou  
Shao-Yu Chou

Residence:

No. 12, Cheng-Kung 5 Street, Chu Pei City, Hsinchu County, Taiwan, R.O.C.