

PATENT ASSIGNMENT

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SUBMISSION TYPE:	NEW ASSIGNMENT												
NATURE OF CONVEYANCE:	ASSIGNMENT												
CONVEYING PARTY DATA													
<table border="1"> <thead> <tr> <th>Name</th> <th>Execution Date</th> </tr> </thead> <tbody> <tr> <td>Hong-Chen Cheng</td> <td>01/30/2012</td> </tr> </tbody> </table>		Name	Execution Date	Hong-Chen Cheng	01/30/2012								
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<table border="1"> <tr> <td>Name:</td> <td>Taiwan Semiconductor Manufacturing Co., Ltd.</td> </tr> <tr> <td>Street Address:</td> <td>No. 8, Li-Hsin Rd. 6</td> </tr> <tr> <td>Internal Address:</td> <td>Hsin-Chu Science Park</td> </tr> <tr> <td>City:</td> <td>Hsin-Chu</td> </tr> <tr> <td>State/Country:</td> <td>TAIWAN</td> </tr> <tr> <td>Postal Code:</td> <td>300-77</td> </tr> </table>		Name:	Taiwan Semiconductor Manufacturing Co., Ltd.	Street Address:	No. 8, Li-Hsin Rd. 6	Internal Address:	Hsin-Chu Science Park	City:	Hsin-Chu	State/Country:	TAIWAN	Postal Code:	300-77
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PROPERTY NUMBERS Total: 1													
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ATTORNEY DOCKET NUMBER:	TSMCP121US												
NAME OF SUBMITTER:	Thomas G. Eschweiler												
<p>Total Attachments: 3 source=Assignment#page1.tif source=Assignment#page2.tif source=Assignment#page3.tif</p>													

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PATENT

U.S. Patent Appln. No.

Docket No. TSMCP121US

Filing Date:

PATENT ASSIGNMENT

PARTIES TO THE ASSIGNMENT

Assignor(s):

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Assignee:

Taiwan Semiconductor Manufacturing Co., Ltd.
No. 8, Li-Hsin Rd. 6, Hsin-Chu Science Park
Hsin-Chu, Taiwan 300-77
Republic of China

AGREEMENT

WHEREAS, ASSIGNOR(S) (listed above) are inventor(s) of an invention entitled
“TRACKING FOR WRITE OPERATIONS OF MEMORY DEVICES” for which:

a non-provisional application for United States Letters Patent:

was executed on even date preparatory to filing (each inventor should sign this
Assignment on the same day as he/she signs the Declaration and Power of
Attorney); or

was filed on _____ and accorded U.S. Serial No. _____; or

will be filed without this executed PATENT ASSIGNMENT. ASSIGNOR hereby
authorizes and requests ASSIGNEE'S legal representatives, the attorneys
associated with Customer No. _____, to insert below in this document this
APPLICATION's U.S. Serial Number and filing date, when known:

U.S. Serial No. _____,

filed on _____.

U.S. Patent Appln. No.

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Filing Date:

WHEREAS, ASSIGNEE (listed above), a corporation of the Republic of China is desirous of acquiring the entire right, title and interest in and to the invention and in and to any letters patent that may be granted therefore in the United States and in any and all foreign countries;

NOW, THEREFORE, in exchange for good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNOR(S) hereby sell, assign and transfer unto ASSIGNEE its successors and assigns, the entire right, title and interest in and to said invention and improvements, said application and any and all letters patent which may be granted for said invention in the United States of America and its territorial possessions and in any and all foreign countries, and in any and all divisions, reissues, re-examinations and continuations thereof, including the right to file foreign applications directly in the name of ASSIGNEE and to claim priority rights deriving from said United States application to which said foreign applications are entitled by virtue of international convention, treaty or otherwise, said invention, application and all letters patent on said invention to be held and enjoyed by ASSIGNEE and its successors and assigns for their use and benefit and of their successors and assigns as fully and entirely as the same would have been held and enjoyed by ASSIGNOR(S) had this assignment, transfer and sale not been made. ASSIGNOR(S) hereby authorize and request the Commissioner of Patents and Trademarks to issue all letters patent on said invention to ASSIGNEE. ASSIGNOR(S) agree to execute all instruments and documents required for the making and prosecution of applications for United States and foreign letters patent on said invention, for litigation regarding said letters patent, or for the purpose of protecting title to said invention or letters patent therefore.

U.S. Patent Appln. No.

Filing Date:

01/30/2012
Date

Hong Chen Cheng
Name 1st Inventor Hong-Chen Cheng