

PATENT ASSIGNMENT

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| SUBMISSION TYPE: | NEW ASSIGNMENT |
| NATURE OF CONVEYANCE: | ASSIGNMENT |
| CONVEYING PARTY DATA | |
| Name | Execution Date |
| Tzu-Hsuan Hsu | 04/09/2008 |
| Han-Chi Liu | 04/09/2008 |
| Ching-Chun Wang | 04/09/2008 |
| RECEIVING PARTY DATA | |
| Name: | Taiwan Semiconductor Manufacturing Company, Ltd. |
| Street Address: | No. 8, Li-Hsin Road 6 |
| City: | Hsin-Chu |
| State/Country: | TAIWAN |
| Postal Code: | 300-77 |
| PROPERTY NUMBERS Total: 1 | |
| Property Type | Number |
| Application Number: | 12107199 |
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| <p>Total Attachments: 2</p> <p>source=993Assignment#page1.tif</p> | |

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PATENT
REEL: 020838 FRAME: 0506

ASSIGNMENT

WHEREAS, we,

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| (1) | Tzu-Hsuan Hsu | of | No. 72, Gangshan Central St., Cianjhen District Kaohsiung City 806, Taiwan, R.O.C. |
| (2) | Han-Chi Liu | of | No. 26, Fusin Village, Dahu Shiang Miaoli County 364, Taiwan, R.O.C. |
| (3) | Ching-Chun Wang | of | 3F-1, No. 28, Lane 158, Sec. 2, Dongmen Rd. Tainan, Taiwan, R.O.C. |

have invented certain improvements in

BACKSIDE DEPLETION FOR BACKSIDE ILLUMINATED IMAGE SENSORS

for which we have executed an application for Letters Patent of the United States of America,

 of even date filed herewith; and
 X filed on April 22, 2008 and assigned application number 12/107,199; and

WHEREAS, we authorize the attorney of record to update this document to include Patent Office information as deemed necessary (i.e., filing date, serial number, etc.);

WHEREAS, Taiwan Semiconductor Manufacturing Company, Ltd., ("TSMC"), No. 8, Li-Hsin Rd. 6, Science-Based Industrial Park Hsin-Chu, Taiwan 300-77, Republic of China. is desirous of obtaining the entire right, title, and interest in, to and under the said invention and the said application in the United States of America and in any and all countries foreign thereto;

NOW, THEREFORE, for One Dollar (\$1.00) and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and other good and valuable consideration, we have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over, unto the said TSMC, its successors, legal representatives, and assigns, the entire right, title, and interest in, to and under the said invention, and the said application, and all divisional, renewal, substitutional, and continuing applications thereof, and all Letters Patent of the United States of America which may be granted thereon and all reissues and extensions thereof, and all applications for Letters Patent which may be filed for said invention in any country or countries foreign to the United States of America, and all extensions, renewals, and reissues thereof, and all prior patents and patent applications from which a filing priority of the above-described patent application may be obtained, including the right to collect past damages; and we hereby authorize and request the Commissioner of Patents of the United States of America, and any official of any country or countries foreign to the United States of America, whose duty it is to issue patents on applications as aforesaid, to issue all Letters Patent for said invention to the said TSMC, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

AND WE HEREBY covenant that we have full right to convey the entire interest herein assigned, and that we have not executed, and will not execute, any agreement in conflict herewith.

AND WE HEREBY further covenant and agree that we will communicate to said TSMC, its successors, legal representatives and assigns, any facts known to us respecting said invention, and testify in any legal proceedings, sign all lawful papers, execute all divisional, renewal, substitutional, continuing, and reissue applications, make all rightful declarations and/or oaths and generally do everything possible to aid the said TSMC, its successors, legal representatives and assigns, to obtain and enforce proper patent protection for said invention in all countries.

Inventor Name: Tzu-Hsuan Hsu

Residence Address: No. 72, Gangshan Central St., Cianjhen District
Kaohsiung City 806, Taiwan, R.O.C.

Dated: Apr. 9, '08

Tzu-Hsuan Hsu
Inventor Signature

Inventor Name: Han-Chi Liu

Residence Address: No. 26, Fusin Village, Dahu Shiang
Miaoli County 364, Taiwan, R.O.C.

Dated: Apr. 9, 2008

Han-Chi Liu
Inventor Signature

Inventor Name: Ching-Chun Wang

Residence Address: 3F-1, No. 28, Lane 158, Sec. 2, Dongmen Rd.
Tainan, Taiwan, R.O.C.

Dated: Apr. 9, 2008

Ching-Chun Wang
Inventor Signature