

PATENT ASSIGNMENT

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
Chung Chien Wang	03/30/2011
Yuer-Luen Tu	03/30/2011
Chia-Shiung Tsai	03/30/2011
RECEIVING PARTY DATA	
Name:	Taiwan Semiconductor Manufacturing Company, Ltd.
Street Address:	No. 8, Li-Hsin Rd. 6
Internal Address:	Science-Based Industrial Park
City:	Hsin-Chu
State/Country:	TAIWAN
Postal Code:	300-77
PROPERTY NUMBERS Total: 1	
Property Type	Number
Application Number:	13079995
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PATENT
REEL: 026453 FRAME: 0995

ASSIGNMENT

WHEREAS, we,

- (1) Chung Chien Wang of 7F, No. 35, Yongfu Road
Shanhua Township, Tainan County 741, Taiwan, R.O.C.
- (2) Yuer-Luen Tu of No. 3-6, Lane 12, Gong-Xue Road
Taichung, Taiwan, R.O.C.
- (3) Chia-Shiung Tsai of No. 5, 50 Alley, 62 Lane, Gua-Tsuey Road
Hsin-Chu, Taiwan, R.O.C.

have invented certain improvements in

**METHOD TO AVOID FIXED PATTERN NOISE WITHIN BACKSIDE
ILLUMINATED (BSI) COMPLEMENTARY METAL-OXIDE-SEMICONDUCTOR
(CMOS) SENSOR ARRAY**

for which we have executed an application for Letters Patent of the United States of America on
April 5, 2011, and assigned U.S. Serial No. 13/079,995.

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 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: Chung Chien Wang

Residence Address: 7F, No. 35, Yongfu Road
Shanhua Township, Tainan County 741, Taiwan, R.O.C.

Dated: ✓ 2011/03/30

✓ Chung Chien Wang
Inventor Signature

Inventor Name: Yuer-Luen Tu

Residence Address: No. 3-6, Lane 12, Gong-Xue Road
Taichung, Taiwan, R.O.C.

Dated: ✓ 2011/03/30

✓ Yuer-Luen Tu
Inventor Signature

Inventor Name: Chia-Shiung Tsai

Residence Address: No. 5, 50 Alley, 62 Lane, Gua-Tsuey Road
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Dated: ✓ 2011/03/30

✓ Chia-Shiung Tsai
Inventor Signature