#### 12/03/2014 503083410

# PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

## **CONVEYING PARTY DATA**

Name	Execution Date
INDUSTRIAL TECHNOLOGY RESEARCH INSTITIUTE	11/20/2014

# **RECEIVING PARTY DATA**

Name:	TAIWAN SEMICONDUCTOR MANUFACTURING CO., LTD	
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City: HSIN-CHU		
State/Country:	State/Country: TAIWAN	
Postal Code:	300-77	

## **PROPERTY NUMBERS Total: 4**

Property Type	Number
Patent Number:	6436816
Patent Number:	6713377
Patent Number:	6660625
Patent Number:	8362454

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DATE SIGNED:	12/03/2014	

**Total Attachments: 1** 

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PATENT REEL: 034349 FRAME: 0612

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## ASSIGNMENT OF U.S. PATENTS

WHEREAS, Industrial Technology Research Institute, having a place of business at No.195, Sec. 4, Chung Hsing Rd., Chutung, Hsinchu, 31040, Taiwan hereinafter referred to as ASSIGNOR. owns the full right, title, and interest in

No	U.S. patent application No.:	Filing Date	Title:
1	09/127,463 (US6,436,816)	1998/07/31	Method of electroless plating copper on nitride barrier
2	10/156,630 (US6,713,377)	2002/05/28	Method of electroless plating copper on nitride barrier
3	10/156,635 (US6,660,625)	2002/05/28	Method of electroless plating copper on nitride barrier
4	12/334,203 (US8,362,454)	2008/12/12	Resistive random access memory having metal oxide layer with oxygen vacancies and method for fabricating the same

WHEREAS, Taiwan Semiconductor Manufacturing Company, Ltd. having a place of business at No.8, Li-Hsin Rd. 6, Science-Based Industrial Park Hsin-Chu, Taiwan 300-77, hereinafter referred to as ASSIGNEE, is desirous of acquiring ASSIGNOR'S interest in and to said invention and any U.S. provisional, continuation, continuation-in-part, divisional, reissued, and reexamined applications and patents, to be filed or issued, relating to said invention.

NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN: Be it known that, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged by ASSIGNOR, ASSIGNOR has sold, assigned and transferred and does hereby sell, assign and transfer unto ASSIGNEE, and ASSIGNEE'S successors and assigns the entire right, title and interest, for the United States of America, in and to said invention and all the rights and privileges in any application and under any and all patents that may be granted in the U.S. for the invention, including but not limited to, all corresponding provisional, continuation, continuation-in-part, divisional, reissue, and reexamination applications.

INDUSTRIAL TECHNOLOGY RESEARCH INSTITUTE

Name: Alex Fan

Title: Deputy General Director

RECORDED: 12/03/2014

Date: Nov. >0, >0/4.

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**PATENT REEL: 034349 FRAME: 0613**