PATENT ASSIGNMENT

Electronic Version v1.1 Stylesheet Version v1.1

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
YOUNG WOO JUNG	04/17/2013
HEE TAK SHIN	04/17/2013
JIN WOO JUNG	04/17/2013
WAN SOO CHOI	04/17/2013

RECEIVING PARTY DATA

Name:	SAMSUNG ELECTRONICS CO., LTD.
Street Address:	129, SAMSUNG-RO, YEONGTONG-GU
City:	SUWON-SI, GYEONGGI-DO
State/Country:	KOREA, REPUBLIC OF
Postal Code:	443-742

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	13945460

CORRESPONDENCE DATA

Fax Number: 5166928889

Correspondence will be sent via US Mail when the fax attempt is unsuccessful.

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Correspondent Name: F. CHAU & ASSOCIATES, LLC Address Line 1: 130 WOODBURY ROAD

Address Line 4: WOODBURY, NEW YORK 11797

	PATENT
Signature:	/FRANK CHAU/
NAME OF SUBMITTER:	FRANK CHAU
ATTORNEY DOCKET NUMBER:	8836-877 (ID-220485-US)

REEL: 030827 FRAME: 0845

OP \$40,00 13945460

Date:	07/18/2013
	This document serves as an Oath/Declaration (37 CFR 1.63).
Total Attachments: 4 source=8836-877_COMBINED-DECLARAT source=8836-877_COMBINED-DECLARAT source=8836-877_COMBINED-DECLARAT source=8836-877_COMBINED-DECLARAT	ION_ASSIGNMENT#page2.tif ION_ASSIGNMENT#page3.tif

PATENT REEL: 030827 FRAME: 0846

COMBINED DECLARATION (37 CFR §1.63) FOR UTILITY PATENT APPLICATION AND ASSIGNMENT FORM¹

The undersigned acknowledges that this document is being used both as an assignment of the invention and as the declaration (37 CFR 1.63) for a Utility or Design Application.

WHEREAS, the undersigned, hereinafter referred to collectively as Assignor, has invented:

Title:	DATA STORAGE D		NONVOLATILE MEMOR	Y CHIPS AND
for whi	•	t to make or has mad	de United States or Inter	national application
WHERE	AS, as a below nam	ned inventor(s), I/(we) hereby declare that:	
Section	I. Declaration			
This de	laration is directed	I to:		
	∑ The attach	ed U.S. non-provision	nal patent application, or	
		ovisional patent appl	ication number or	, filed
			tion number	, filed on
1 (we) t	ve-identified appli elieve that I am (w		authorized to be made b ventor (original joint inve	
, ,		•	e statement made in this risonment of not more t	
1 This fo	rm requires the use of	 an Application Data She	et.	
SEC Ref	No. ID-2012	:03-555-1-US0	Attorney Ref No.	8836-877

COMBINED DECLARATION (37 CFR 1.63) FOR UTILITY PATENT APPLICATION AND ASSIGNMENT FORM
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PATENT

I hereby state that I have reviewed and understand the contents of the above identified application, including the claims.

I acknowledge that I am aware of the duty to disclose information which is material to patentability as defined in 37 CFR § 1.56.

Section II. Assignment

In consideration of the sum of One Dollar (\$1.00) and other good and valuable consideration paid to each of the undersigned, the undersigned hereby sell(s) and assign(s) to

Samsung Electronics Co., Ltd.

having an address at 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do 443-742, Republic of Korea (hereinafter designated as the Assignee), the entire (100%) right, title and interest for the United States as defined in 35 USC §100, in the invention described in the application identified in Section I of this document.

Assignor hereby confirms any prior assignment to Assignee, and to the extent that Assignor has not already done so, agrees to assign, and hereby does, sell, assign and transfer unto Assignee and its successors in interest, the full and exclusive right, title and interest in the United States of America and throughout the world, including the right to claim priority under the laws of the United States, the Paris Convention, and any foreign countries, to the inventions as described in the aforesaid application, to the aforesaid application itself, and all divisions, continuations, continuations-in-part, or other applications claiming priority directly or indirectly from the aforesaid application, and any United States or foreign Letters Patent, utility model, or other similar rights which may be granted thereon, including reissues, reexaminations and extensions thereof, and all copyright rights throughout the world in the aforesaid application and the subject matter disclosed therein, these rights, title and interest to be held and enjoyed by Assignee to the full end of the term for which the Letters Patent, utility model, or other similar rights, are granted and any extensions thereof as fully and entirely as the same would have been held by Assignor had this assignment and sale not been made, and the right to sue for, and recover for past infringements of, or liabilities for, any of the rights relating to any of the applications, patents, utility models, or other similar rights, resulting therefrom, and the copyright rights;

Assignor hereby covenants and agrees to execute all instruments or documents required or requested for the making and prosecution of any applications of any type for patent, utility model, or other similar rights, and for copyright, in the United States and in all foreign countries including, but not limited to, any provisional, continuation, continuation-in-part, divisional, renewal or substitute thereof, and as to letters patent any reissue, re-

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examination, or extension thereof, and for litigation regarding, or for the purpose of protecting title and to the said invention, the United States application for patent, or Letters Patent therefor, and to testify in support thereof, for the benefit of Assignee without further or other compensation than that above set forth;

Assignor hereby covenants that no assignment, sale, license, agreement or encumbrance has been or will be entered into which would conflict with this Assignment; and

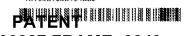
Assignor hereby requests the United States Patent and Trademark Office to issue the Letters Patent of the United States of America to Assignee, and requests that any official of any country or countries foreign to the United States, whose duty it is to issue or grant patents and applications as aforesaid, to issue the Letters Patent, Utility Model Registration or other similar right to Assignee.

The undersigned hereby grant(s) the law firm of F.Chau & Associates, LLC the power to insert on this Declaration and Assignment any further identification which may be necessary or desirable in order to comply with the rules of the U.S. Patent and Trademark Office for recordation of this document.

Section III. Inventor(s)/Assignor(s) Signature(s)

LEGAL NAME OF	Family Name	First Given Name	Second Given Name
FIRST INVENTOR/ASSIGNOR	Jung	Young Woo	
		<u> </u>	
	~ <i>></i>	DATE	04.11) 2013
SIGNATURE	Jung Young w	ÇO	

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LEGAL NAME OF	Family Name	First Given Name	Second Given Name
SECOND	Shin	HeeTak	
	1		
SIGNATURE	Mir	DATE	04172013

LEGAL NAME OF	Family Name	First Given Name	Second Given Name
THIRD INVENTOR/ASSIGNOR	Jung	Jinwoo	
	***************************************		À

LEGAL NAM	OF Family Name		First Given Name	Second Given Name
FOURTH INVENTOR/ASS	}	Choi	Wan-Soo	
ADIS	IATURE	May	DATE	04 17 2013
SEC Ref No.	ID-201	203-555-1-US0	Attorney Ref No.	8836-877

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RECORDED: 07/18/2013