Alexandria, VA 22314

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Atty. Docket No.: 2557-000538/US

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RECORDATION FORM COVER SHEET

To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof. 1. Name of conveying party(ies): 2. Name and address of receiving party(ies) Name: SAMSUNG ELECTRONICS CO., LTD. Chang-Wook MOON, Street Address: 416 Maetan-dong, Yeongtong-gu Sang-Mock LEE, City: Suwon-si State: Gyeonggi-do In-Kyeong YOO, Country: Republic of Korea Seung-Woon LEE, El Mostafa BOURIM, Additional name(s) & address(es) attached?
YES NO **Eun-Hong LEE, and Choong-Rae CHO** Additional name(s) of conveying party(ies) attached? J YES 🥒 NO 3. Nature of conveyance: Assignment ☐ Security Agreement ☐ Change of Name Other: Execution Date: 11/22/2006, 11/22/2006, 11/22/2006, 11/22/2006, 11/22/2006, 11/22/2006, and 11/22/2006 4. Application number(s) or patent number(s): If this document is being filed together with a new application, the execution date of the application is: 11/22/2006, 11/22/2006, 11/22/2006, 11/22/2006, 11/22/2006, 11/22/2006, and 11/22/2006 A. Patent Application No(s). B. Patent No.(s). Additional numbers attached? TYES NO 6. Total No. of applications/patents involved: One (1) 5. Name and address of party to whom correspondence concerning document should be mailed: Name: HARNESS, DICKEY & PIERCE, P.L.C. 7. Total fee (37 C.F.R. § 3.41): \$40.00 Street Address: P.O. BOX 8910 Enclosed City: **RESTON** State: VA ZIP: 20195 Authorized to be charged to deposit account, if no fee attached. Country: USA 8. Deposit account number: 08-0750 (Attach triplicate copy of this page if paying by deposit account) ISE THIS SPACE DO NØT 9. Statement and signature. To the best of my knowledge and belief, the foresping information is true and correct and any attached copy is a true copy of the original document. John A. Castellano, Reg. No. 35,094 December 1, 2006 Name of Person Signing/Reg. No. Signature Date Total number of pages including cover sheet, attachments, and document:

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JAC:dpg

Atty. Docket No. 2657-000538/US

ASSIGNMENT

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

STORAGE NODE HAVING A METAL-INSULATOR-METAL STRUCTURE, NON-VOLATILE MEMORY DEVICE INCLUDING A STORAGE NODE HAVING A METAL-INSULATOR-METAL STRUCTURE AND METHOD OF OPERATING THE SAME

for which Assignor is about to make or has made United States or International application for patent executed on even date preparatory to filling (each inventor should sign (a) \boxtimes this Assignment on the same day as he/she signs the Declaration and Power of Attorney); executed on _____; or (b) _, and assigned Serial No. ____ or PCT international (c) filed on Application No. ____; U.S. Patent No. ____, issued ___ (d)

WHEREAS, Samsung Electronics Co., Ltd., 416, Maetan-dong, Yeongtong-gu, Suwon-si, Gyeonggi-do, Republic of Korea, hereinafter referred to as Assignee, is deelrous of acquiring an interest therein:

NOW, THEREFORE, for good and valuable consideration, the receipt and adequacy whereof is hereby acknowledged, Assignor by these presents 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 all foreign countries, including the right to claim priority under the laws of the United States, the Paris Convention, and any foreign countries, to the said invention as described in the aforesald application, said application for patent and all Letters Patent therefor to be held and enjoyed by Assignee to the full end of the term for which said Letters Patent 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 recover for past infringements of, or liabilities for, any of the rights relating to any of said applications or patents resulting therefrom;

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 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 relessue, re-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 or agreement or encumbrance has been or will be entered into which would conflict with this Assignment; and

Assignor hereby requests the Commissioner of Patents and Trademarks to issue said 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 said Letters Patent, Utility Model Registration or inventor's Certificate to Assignee.

The undersigned hereby grant(s) the law firm of Harness, Dickey & Pierce, P.L.C. the power to insert on this 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.

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ASSIGNMENT

Chang-Wook MOON

22/November/2006

Dated

Sang-Mock LEE

22/November/2006

Dated

In-Kyeong YOO

22/November/2006

Dated

Seung-Woon LEE

22/November/2006

Dated

El Mostafa BOURIM

22/November/2006

Dated

Eun-Hong LEE

22/November/2006

Dated

Choong-Rae CHO

22/November/2006

Dated

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PATENT REEL: 018663 FRAME: 0263

RECORDED: 12/01/2006