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5. DEPARTMENT OF COMMERCE Patent and Trademark Office

To the Director of the United States Patent and Trademark Office. Please record the attached original documents or copy thereof. 2. Name and address of receiving party(ies): 1. Name of conveying party(ies): Fumitaka ARAI, Riichiro SHIROTA, Toshitake YAEGASHI, Akira Name: KABUSHIKI KAISHA TOSHIBA SHIMIZU, Yasuhiko MATSUNAGA, Masayuke ICHIGE and Address: 1-1 Shibaura 1-chome, Minato-Ku, Hisataka MEGURO Tokyo, Japan Additional name(s) of conveying party(ies) attached?

Yes No 06-18-2003 3. Nature of Conveyance: Assignment ☐ Merger ☐ Security Agreement ☐ Change of Name 102476161 ☐ Other Additional name(s) and address(es) attached?

Yes No Execution Date: May 6, 2003 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: B. Patent No.(s) A. Patent Application No.(s) 10/382,772 Additional numbers attached?

Yes 5. Name and address of party to whom correspondence 6. Total applications and patents involved: 1 concerning document should be mailed: 7. Total fee (37 CFR 3.41): \$40.00 Enclosed ☐ Authorized to be charged to deposit account 8. Deposit account number: 15-0030 Tel. (703) 413-3000 (Attach duplicate copy of this page if paying by deposit account) Fax. (703) 413-2220 DO NOT USE THIS SPACE 9. Statement and signature To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document. Eckhard H. Kuesters Name of Person Signing Joseph A. Scafetta, Jr. Registration Number: 28,870 Registration No. 26,803 Total number of pages including this cover sheet: 3 Do not detach this portion Mail documents to be recorded with required cover sheet information to: Director of the United States Patent and Trademark Office Mail Stop Assignment Recordation Services

Alexandria, Virginia. 22313

PATENT REEL: 014170 FRAME: 0419

ASSIGNMENT

In consideration of value received. I, having a mailing address at c/o Intellectual Property Division, KABUSHIKI KAISHA TOSHIBA, 1-1 Shibaura 1-chome, Minato-ku, Tokyo 105-8001, Japan and a residence as stated below next to my name, the sole inventor (if only one name is listed below) or a joint inventor (if plural inventors are listed below) of an invention described in an application for United States patent entitled:

NONVOLATILE SEMICONDUCTOR MEMORY DEVICE AND MANUFACTURING METHOD OF THE SAME

said application having been filed on March 7, 2003 and assigned Application No. 10/382,772; sell and assign to KABUSHIKI KAISHA TOSHIBA a corporation of Japan, having a business address at 1-1 Shibaura 1-chome, Minato-Ku, Tokyo, Japan

its successors, assigns or nominees, hereinafter referred to as "Assignee", my entire right, title and interest in and to said invention as disclosed, shown and described in said application for United States patent: (check one)

- \times executed concurrently herewith:
- executed separately herefrom;

and in and to all applications for patent and patents for said invention, in all countries of the world, including all divisions, reissues, continuations, substitutions and extensions thereof and all rights arising under or pursuant to any and all international agreements, treaties or laws relating to the protection of industrial property, including rights of priority, resulting from the filing of any of said applications: and I authorize and request any official whose duty is to issue patents. to issue any patent on said invention or resulting therefrom to said Assignee, and I agree that on request and without further consideration, but at the expense of said Assignee. I will communicate to said Assignee or its representatives all facts known to me respecting said invention and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuing, reissue, or other applications, make all rightful oaths and declarations, and generally do everything possible to aid said Assignee to obtain and enforce proper patent protection for said invension in all countries.

I hereby grant the following law firm 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.

Oblon, Spivak, McClelland, Maier & Neustadt, P.C., 1940 Duke Street, Alexandria, Virginia 22314

PATENT REEL: 014170 FRAME: 0420

ASSIGNMENT

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> PATENT REEL: 014170 FRAME: 0421