11-28-2000 U.S. DEPARTMENT OF COMMERCE FORM PTO-1595 RECORDA (Rev. 6-93) Patent and Trademark Office OMB No. 0651-0011 (exp. 4/94) 101529765 To the Honorable Commissioner of Patents and ginal documents or copy thereof. 2. Name and address of receiving party(ies): 1. Name of conveying party(ies): Jang-Ho Cho Name: Samsung Electronics, Co., Ltd Internal Address: Additional name(s) of conveying party(ies) attached? ⊠ No □ Yes 3. Nature of conveyance: Street Address: 416, Maetan-dong, Paldal-gur Suwon-city, Kyungki-do, Republic of Korea ☐ Merger ☐ Security Agreement ☐ Change of Name City: State ZIP ☐ Other **Execution Date:** October 20, 2000 Additional name(s) & address attached? Yes ⊠ No 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: October 20, 2000 A. Patent Application No.(s) B. Patent No.(s) 19315 Additional numbers attached? ☐ Yes 🖾 No 6. Total number of applications and registrations 5. Name and address of party to whom correspondence concerning 1 involved document should be mailed: Name: Steven M. Mills 7. Total fee (37 CFR 3.41)...... \$40.00 Internal Address: Samuels, Gauthier & Stevens LLP ☑ Enclosed ☐ Authorized to be charged to deposit account Street Address: 8. Deposit Account Number: 225 Franklin Street, Suite 3300 (Attach duplicate copy of this page if paying by deposit account) MA ZIP 02110 State City: Boston 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.

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OCT-17-2000 TUE 05:35 PM SAMUELS GAUTHIER STEVENS

FAX NO. 8174282275

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ABBIGNMENT

I, Jang-Ho Cho, of 3-111 Samhwan Apartment, 462, Kuwan-dong, Kwomam-ku, Suwon. Kyunggi-do, Republic of Korea, having invented improvements in Branch Predictor Using Branch Prediction Accuracy History, described in an application for Letters Patent of the United States executed by me of even date her-with, for good and valuable consideration, receipt of which is hereby acknowledged from Samsung Electronics, Co., Ltd., a Korean corporation having a place of business at 416, Mactan-dong, Paldal-gu, Suwon-city, Kyungki-do, Republic of Korea (and hereinafter called the Assignee, which term shall include its successors and assigns), do hereby sell, assign and transfer unto the Assignee my entire right, title, and interest in and throughout the United States of America (including its territories and dependencies) and all countries foreign thereto, in and to and under said application (which term shall include hardnafter where the context so admits all divisional, continuing, relates and other patent applications based thereon) and the inventions (which term shall include each and every such invention, or part thereof) therein described, and any and all patents and like rights of excitation (including extensions thereof) of any country which may be granted on or for said towardons or on said application;

And for the same consideration I do also hereby sell, seeign, and transfer unto the Assignee, all my rights under the international Convention for the Protection of Industrial Property, the Patent Cooperation Treaty, and all other treatics of like purpose in respect of said inventions and said application, and I do haveby authorize the Assignee to apply is my name or its own name or its designee for patents and like rights of exclusion on or for said inventions in all countries, claiming (if the Assignoe so desires) the priority of the filing date of said application under the provisions of said Convention, Treaty or any such other Convention or Treaty;

And for the same consideration, I do hereby agree for myself and for my helm, executors, and administrators, promptly upon request of the Assignee to execute and deliver without further compensation any power of attorney, assignment, original, divisional, continuing, release or other application or applications for patents or patents or like rights of exclusion of any country, or other lawful destinants and any further manuscress that may be desmed necessary or desirable by the Assignee, fully to secure to it said right, title, and interest as aforesaid in and to said inventions, applications, and said several patents and like rights of exclusion (including extensions thereof) or any of them, all, however, at the expense of the Assignee, its assessment, or assigns:

And I do bereby authorize and request the Commissioner of Patents and Trademarks of the United States of America and the corresponding Official of each country foreign thereto to issue to the Assignee, any and all patents and like rights of exclusion which may be granted in any country upon said United States application on or for said inventions.

And I do hereby coverant for myself and my logal representatives and agree with the Assignee, that I have granted my right or blockes to make, use, or sell said inventions to anythe except the Assignee, that prior to the execution of this deed our right, this, and interest in and to said inventions has not been otherwise executions by see, and that I have not executed and will not execute any instruments in conflict herewith

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First or Sole Inventor:

Signature:

Jang-Ho Cho

Deta: Oct. 20, 2000

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