PATENT ASSIGNMENT

Electronic Version v1.1 Stylesheet Version v1.1

SUBMISSION TYPE: NEW ASSIGNMENT

NATURE OF CONVEYANCE: ASSIGNMENT

CONVEYING PARTY DATA

| Name | Execution Date |
|----------------|----------------|
| Jung-Hoon PARK | 12/29/2010 |

RECEIVING PARTY DATA

| Name: | Hynix Semiconductor Inc. |
|-----------------|---|
| Street Address: | San 136-1, Ami-ri, Bubal-eup, Icheon-si |
| City: | Gyeonggi-do |
| State/Country: | REPUBLIC OF KOREA |
| Postal Code: | 467-701 |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 12980450 |

CORRESPONDENCE DATA

Fax Number: (571)327-5452

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

Phone: 571-327-5450

Email: ipntlaw@ipntlaw.com

Correspondent Name: IP & T GROUP LLP

Address Line 1: 7700 Little River Turnpike

Address Line 2: Suite 207

Address Line 4: Annandale, VIRGINIA 22003

ATTORNEY DOCKET NUMBER: P10H0143/US

NAME OF SUBMITTER: Jung H. Kim

Total Attachments: 1

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PATENT REEL: 025552 FRAME: 0323

| ASSIGNMENT OF PATENT APPLICATION |
|---|
| WHEREAS I/We, the below named inventor(s) has made an invention entitled: ERROR CODE PATTERN GENERATION CIRCUIT AND SEMICONDUCTOR MEMORY DEVICE INCLUDING THE SAME |
| For which I/We executed an application for Letters Patent of the United States concurrently herewith; and/or For which I/We filed an application for Letters Patent of the United States on(Application No), |
| BE IT KNOWN that, for good and valuable consideration, the receipt of which is hereby acknowledged, I/We, as assignor(s), have sold, assigned, transferred, and set over, and do hereby sell, assign, transfer, and set over unto Hynix Semiconductor Inc., a corporation of the Republic of Korea, whose post office address is San 136-1, Ami-ri, Bubal-eup, Icheon-si, Gyeonggi-do 467-701, Republic of Korea (hereinafter referred to as Assignee), its lawful successors and assigns my/our entire right, title, and interest in and to this application and the invention(s) and improvement(s) set forth therein; and any and all continuations, continuations-in-part, divisionals, and renewals of and substitutes for said application for said Letters Patent and any and all Letters Patent of the United States and of countries foreign thereto, which may be granted thereon or therefore; and any reissues, reexaminations, or extensions of all such Letters Patent. |
| I/WE HEREBY authorize the Assignee, its lawful successors and assigns to apply for Letters Patent in all countries foreign to the United States directly in its own name, and to claim priority of the filing date of any of the abovementioned applications for Letters Patent of the United States and of countries foreign thereto under the provisions of any and all international conventions and treaties. |
| I/WE HEREBY authorize and request the Commissioner of Patents and Trademarks of the United States and official of any country or countries foreign to the United States, who specifically it is to issue patents on applications as foresaid, to issue all Letters Patent for this invention to the Assignment; |
| AND, I/WE HEREBY covenant that I/We have the full right to convey the interest assigned by this Assignment, and I/We have not executed and will not execute any agreement in conflict with this Assignment; AND, I/WE HEREBY further covenant and agree that I/We will, without further consideration, communicate with said Assignee, its successors and assigns, any facts known to me/us respecting this invention and testify in any legal proceeding, sign all lawful papers where called upon to do so, execute and deliver any and all papers that may be necessary or desirable to perfect the title to this invention in said Assignee, its successors and assigns, execute all divisional, continuation, and reissue applications, make all rightful oaths and generally do everything possible to aid said Assignee, its successors and assigns, to obtain and enforce proper patent protection for this invention in the United States and in countries foreign thereto, it being understood that any expense incident to the execution of such papers shall be borne by the Assignee, its successors and assigns. |
| AND, I/WE HEREBY authorize and request the attorneys of record to insert the serial number and filing date of said application now identified by the attorney docket number and title set forth above as soon as the same shall have been known to them by the United States Patent and Trademark Office. |
| IN TESTIMONY WHEREOF, I/We have hereunto set our hands. Signature of first assignor: Name of first assignor: Address: Signature of second assignor: Signature of second assignor: Date Date Date |
| Name of second assignor: Address: |

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PATENT REEL: 025552 FRAME: 0324

RECORDED: 12/29/2010