PATENT ASSIGNMENT

Electronic Version v1.1 Stylesheet Version v1.1

SUBMISSION TYPE: NEW ASSIGNMENT

NATURE OF CONVEYANCE: ASSIGNMENT

CONVEYING PARTY DATA

| Name | Execution Date |
|---------------|----------------|
| Sangwon Hwang | 08/07/2009 |

RECEIVING PARTY DATA

| Name: | SAMSUNG ELECTRONICS CO., LTD. |
|-----------------|---------------------------------|
| Street Address: | 416, Maetan-dong, Yeongtong-gu, |
| City: | Suwon-si, Gyeonggi-do, |
| State/Country: | REPUBLIC OF KOREA |
| Postal Code: | 442-742 |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 12542882 |

CORRESPONDENCE DATA

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ATTORNEY DOCKET NUMBER: SEC.2455

NAME OF SUBMITTER: ADAM C. VOLENTINE

Total Attachments: 2

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> PATENT REEL: 023110 FRAME: 0819

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ASSIGNMENT

| | In consideration of the sum of One Dollar (\$1.00) and other good and valuable consideration paid to each of the undersigned | | |
|-----------------------|--|--|--|
| Insert Name(s) of | 1. Sangwon HWANG 7 | | |
| Inventor(s) | 28. | | |
| | 9 . | | |
| | 410, | | |
| | 5 | | |
| | 6. 12. the undersigned hereby sell(s) and assign(s) to | | |
| Insert | the undersigned hereby sell(s) and assign(s) to | | |
| Name(s) of | CAMBING PARCEDONICS CO. 190 | | |
| Assignee(s) & | SAMSUNG ELECTRONICS CO., LTD. 416, Maetan-dong, Yeongtong-gu, | | |
| Address(es) | of Suwon-si, Gyeonggi-do 442-742, Republic of Korea | | |
| Address(cs) | | | |
| Title of | (hereinafter designated as the Assignee) the entire right, title and interest for the United States as defined in 35 USC 100, in the invention known as | | |
| Invention | NONVOLATILE MEMORY DRVICE, OPERATING METHOD THEREOF, AND | | |
| | MEMORY SYSTEM INCLUDING THE SAME | | |
| Date of Signing of | for which an application for patent in the United States of America has been executed by | | |
| Application | the undersigned on August 7, 2009 | | |
| | The undersigned agree(s) to execute all papers necessary in connection with this application and any continuing, divisional or reissue applications thereof and also to execute separate assignments in connection with such applications as the Assignee may deem necessary or expedient. | | |
| | The undersigned agree(s) to execute all papers necessary in connection with any interference which may be declared concerning this application or continuing, division or reissue thereof and to cooperate with the Assignee in every way possible in obtaining evidence and going forward with such interference. | | |
| | The undersigned agree(s) to execute all papers and documents and perform any act which may be necessary in connection with claims or provisions of the International Convention for Protection of Industrial Property or similar agreements. | | |
| | The undersigned agree(s) to perform all affirmative acts which may be necessary to obtain a grant of a valid United States patent to the Assignee. | | |
| | | | |

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The undersigned hereby grant(s) the practitioners associated with the <u>CUSTOMER NUMBER 20987</u> 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 United States Patent Office for recordation of this document.

The undersigned hereby authorize(s) and request(s) the Commissioner of Patents to issue any and all Letters Patents of the United States resulting from said application or any division or divisions or continuing or reissue applications thereof to the said Assignee, as Assignee of the entire interest, and hereby covenants that he has (they have) full right to convey the entire interest herein assigned, and that he has (they have) not executed, and will not execute, any agreement in conflict herewith.

In witness whereof, executed by the undersigned on the date(s) opposite the undersigned name(s).

| | Signature of Inventor | Sangwon HWANG |
|-------------|--|---|
| Date | Signature of Inventor | |
| witnessed b | rding Witnessing: It is recommended to you at least two witnesses who sign here. It is to record an Assign | However, the current practice of the U.S. |
| Wie | mace | |
| | | |
| Wit | iness | |

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