

PATENT ASSIGNMENT

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| SUBMISSION TYPE: | NEW ASSIGNMENT | | | | | | | | | | |
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| NATURE OF CONVEYANCE: | ASSIGNMENT | | | | | | | | | | |
| CONVEYING PARTY DATA | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th>Name</th> <th>Execution Date</th> </tr> </thead> <tbody> <tr> <td>CHUL BUM KIM</td> <td>08/16/2012</td> </tr> <tr> <td>JANGWOO LEE</td> <td>08/16/2012</td> </tr> <tr> <td>CHANGSIK YOO</td> <td>09/05/2012</td> </tr> <tr> <td>MINKI JEON</td> <td>09/05/2012</td> </tr> </tbody> </table> | | Name | Execution Date | CHUL BUM KIM | 08/16/2012 | JANGWOO LEE | 08/16/2012 | CHANGSIK YOO | 09/05/2012 | MINKI JEON | 09/05/2012 |
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| <table border="1"> <tr> <td>Name:</td> <td>SAMSUNG ELECTRONICS CO., LTD.</td> </tr> <tr> <td>Street Address:</td> <td>129, SAMSUNG-RO, YEONGTONG-GU</td> </tr> <tr> <td>City:</td> <td>SUWON-SI, GYEONGGI-DO</td> </tr> <tr> <td>State/Country:</td> <td>KOREA, DEMOCRATIC PEOPLE'S REPUBLIC OF</td> </tr> <tr> <td>Postal Code:</td> <td>443-742</td> </tr> </table> | | Name: | SAMSUNG ELECTRONICS CO., LTD. | Street Address: | 129, SAMSUNG-RO, YEONGTONG-GU | City: | SUWON-SI, GYEONGGI-DO | State/Country: | KOREA, DEMOCRATIC PEOPLE'S REPUBLIC OF | Postal Code: | 443-742 |
| Name: | SAMSUNG ELECTRONICS CO., LTD. | | | | | | | | | | |
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| <table border="1"> <tr> <td>Name:</td> <td>INDUSTRY-UNIVERSITY COOPERATION FOUNDATION HANYANG UNIV</td> </tr> <tr> <td>Street Address:</td> <td>17, HAENGDANG-DONG, SEONGDONG-GU</td> </tr> <tr> <td>City:</td> <td>SEOUL</td> </tr> <tr> <td>State/Country:</td> <td>KOREA, DEMOCRATIC PEOPLE'S REPUBLIC OF</td> </tr> <tr> <td>Postal Code:</td> <td>133-070</td> </tr> </table> | | Name: | INDUSTRY-UNIVERSITY COOPERATION FOUNDATION HANYANG UNIV | Street Address: | 17, HAENGDANG-DONG, SEONGDONG-GU | City: | SEOUL | State/Country: | KOREA, DEMOCRATIC PEOPLE'S REPUBLIC OF | Postal Code: | 133-070 |
| Name: | INDUSTRY-UNIVERSITY COOPERATION FOUNDATION HANYANG UNIV | | | | | | | | | | |
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| PROPERTY NUMBERS Total: 1 | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th>Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>Application Number:</td> <td>13604753</td> </tr> </tbody> </table> | | Property Type | Number | Application Number: | 13604753 | | | | | | |
| Property Type | Number | | | | | | | | | | |
| Application Number: | 13604753 | | | | | | | | | | |
| CORRESPONDENCE DATA | | | | | | | | | | | |
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| NAME OF SUBMITTER: | ADAM C. VOLENTINE |
|--------------------|-------------------|

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| Total Attachments: 4 source=Assignment#page1.tif source=Assignment#page2.tif source=Assignment#page3.tif source=Assignment#page4.tif |
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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
Inventor(s)**

- 1. Chul Bum KIM 7. _____
- 2. Jangwoo LEE 8. _____
- 3. Changsik YOO 9. _____
- 4. Minki JEON 10. _____
- 5. _____ 11. _____
- 6. _____ 12. _____

**Insert
Name(s) of
Assignee(s) &
Address(es)**

the undersigned hereby sell(s) and assign(s) to

SAMSUNG ELECTRONICS CO., LTD.
129, Samsung-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do 443-742, Republic of Korea

and

INDUSTRY-UNIVERSITY COOPERATION FOUNDATION HANYANG UNIV
17, Haengdang-dong, Seongdong-gu,
Seoul, 133-070, Republic of Korea

(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

**Title of
Invention**

DATA TRANSMITTING AND RECEIVING APPARATUS AND METHOD, AND

SOLID STATE DRIVE INCLUDING THE SAME

**Date of
Signing of
Application**

for which an application for patent in the United States of America has been executed by

the undersigned on August 16, 2012

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.

The undersigned hereby grant(s) the practitioners associated with the CUSTOMER NUMBER 20987 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).

Date 16 / Aug / 2012 Signature of Inventor Chul Bum Kim
Chul Bum Kim

Date 16 / Aug / 2012 Signature of Inventor Jung woo Lee
Jungwoo Lee

Date _____ Signature of Inventor _____
Changsik Yoo

Date _____ Signature of Inventor _____
Minki Jeon

Date _____ Signature of Inventor _____

Date _____ Signature of Inventor _____

(Note regarding Witnessing: It is recommended that the execution by the Inventor(s) be witnessed by at least two witnesses who sign here. However, the current practice of the U.S. Patent and Trademark Office is to record an Assignment even it has not been witnessed.)

Witness _____

Witness _____

.....
Applicant Reference No. ID-211194-US

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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.

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

Date _____ Signature of Inventor Chul Bum Kim

Date _____ Signature of Inventor Jangwoe Lee

Date 2-12-09-05 Signature of Inventor Changsik Yoo

Date 2-01-07-05 Signature of Inventor Miaki Jeon

Date _____ Signature of Inventor _____

Date _____ Signature of Inventor _____

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