

## PATENT ASSIGNMENT

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SUBMISSION TYPE:	NEW ASSIGNMENT										
NATURE OF CONVEYANCE:	ASSIGNMENT										
CONVEYING PARTY DATA											
<table border="1"> <thead> <tr> <th>Name</th> <th>Execution Date</th> </tr> </thead> <tbody> <tr> <td>Young-Hoo Kim</td> <td>07/05/2012</td> </tr> <tr> <td>Sang Won Bae</td> <td>07/05/2012</td> </tr> <tr> <td>Kuntack Lee</td> <td>07/05/2012</td> </tr> <tr> <td>Hyosan Lee</td> <td>07/10/2012</td> </tr> </tbody> </table>		Name	Execution Date	Young-Hoo Kim	07/05/2012	Sang Won Bae	07/05/2012	Kuntack Lee	07/05/2012	Hyosan Lee	07/10/2012
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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, Suwon-si</td> </tr> <tr> <td>City:</td> <td>Gyeonggi-do</td> </tr> <tr> <td>State/Country:</td> <td>KOREA, REPUBLIC OF</td> </tr> </table>		Name:	Samsung Electronics Co., Ltd.	Street Address:	129, Samsung-ro, Yeongtong-gu, Suwon-si	City:	Gyeonggi-do	State/Country:	KOREA, REPUBLIC OF		
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PROPERTY NUMBERS Total: 1											
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CORRESPONDENCE DATA											
<p>Fax Number: 9198541401</p> <p>Phone: 919-854-1400</p> <p>Email: msalazar@myersbigel.com</p> <p><i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent via US Mail.</i></p> <p>Correspondent Name: MBSS / Marthenn Salazar</p> <p>Address Line 1: 4140 Parklake Ave</p> <p>Address Line 2: Suite 600</p> <p>Address Line 4: Raleigh, NORTH CAROLINA 27612</p>											
ATTORNEY DOCKET NUMBER:	5649-3487										
NAME OF SUBMITTER:	Marthenn Salazar										
Total Attachments: 5											

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**ASSIGNMENT**

THIS ASSIGNMENT, made by us, **Young-Hoo Kim**, citizen of the Republic of Korea, residing at 202-1202, Hyundai Hometown 2 cha Apt., Hogue 3-dong, Dongan-gu, Anyang-si, Gyeonggi-do, Republic of Korea, **Sang Won Bae**, citizen of the Republic of Korea, residing at 1114-1104, 11Block, 2Danji, Humansia Apt. Seochang-dong, Namdong-gu, Incheon, Republic of Korea, **Kuntack Lee**, citizen of the Republic of Korea, residing at 101-402, Ggumegreen Hyowon Apt., 1116-3, Ingye-dong, Paldal-gu, Suwon-si, Gyeonggi-do, Republic of Korea and **Hyosan Lee**, citizen of the Republic of Korea, residing at 110-1703, World Meridian Apt., Uman 2-dong, Paldal-gu, Suwon-si, Gyeonggi-do, Republic of Korea;

WHEREAS, we are the joint inventors of certain new and useful improvements in **METHODS OF MANUFACTURING A THREE-DIMENSIONAL**

**SEMICONDUCTOR DEVICE** for which an application for United States Letters Patent has been filed, or is being filed concurrently, in the United States Patent and Trademark

Office. We hereby authorize and request Myers Bigel Sibley & Sajovec, P.A., to insert here in parentheses (Application No. 13/666,254, filed September 14, 2012 the filing SEP 14 2012 date and application number of said application when known or to file this Assignment concurrently with the application, and

WHEREAS, **Samsung Electronics Co., Ltd.**, a Korean corporation having a principal place of business at 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 443-742, Republic of Korea, hereinafter referred to as assignee, is desirous of acquiring the entire right, title and interest in and to said invention as described in said application, and in and to any and all Letters Patent which shall be granted therefor in the United States of America and all foreign countries;

NOW, THEREFORE, To Whom It May Concern, be it known that for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, we have sold and by these presents do hereby sell, assign, transfer and convey unto the said assignee, its successors and assigns, the entire right, title and interest in and to the said invention and application, and in and to any and all continuations, continuations-in-part, or divisions thereof, and in and to any and all Letters Patent of the United States of America and all foreign countries or reissues thereof which may be granted therefor or thereon, for the full end of the term for which said Letters Patent may be granted, together with the right to claim the priority of said application in all foreign countries in accordance with the International Convention, the same to be held and enjoyed by said assignee, its successors and assigns, as

**ASSIGNMENT – CONTINUED**

fully and entirely as the same would have been held and enjoyed by us if this assignment and sale had not been made.

We hereby request that said Letters Patent be issued in accordance with this assignment.

We further covenant and agree that, at the time of the execution and delivery of these presents, we possess full title to the invention and application above-mentioned, and that we have the unencumbered right and authority to make this assignment.

We further covenant and agree to bind our heirs, legal representatives and assigns, promptly to communicate to said assignee or its representatives any facts known to us relating to said invention, to testify in any interference or legal proceedings involving said invention, to execute any additional papers which may be requested to confirm the right of the assignee, its representatives, successors or assigns to secure patent or similar protection for the said invention in all countries and to vest in the assignee complete title to the said invention and Letters Patent, without further compensation, but at the expense of said assignee, its successors, assigns and other legal representatives.

IN WITNESS WHEREOF, I have hereunto set my hand and seal on this 1st day of July, 2012.

Kim Young Hoo (SEAL)  
Young-Hoo Kim

Witnessed by:

\_\_\_\_\_

Date: \_\_\_\_\_

**ASSIGNMENT – CONTINUED**

IN WITNESS WHEREOF, I have hereunto set my hand and seal on this 5th day  
of July, 2012.

Bae Sang Won (SEAL)  
**Sang Won Bae**

Witnessed by:

\_\_\_\_\_

Date: \_\_\_\_\_

**ASSIGNMENT – CONTINUED**

IN WITNESS WHEREOF, I have hereunto set my hand and seal on this 5<sup>th</sup> day  
of July, 2012.

Kuntack Lee (SEAL)  
**Kuntack Lee**

Witnessed by:

\_\_\_\_\_

Date: \_\_\_\_\_

**ASSIGNMENT – CONTINUED**

IN WITNESS WHEREOF, I have hereunto set my hand and seal on this 10<sup>th</sup> day  
of July, 2012.

Hyosan Lee (SEAL)  
**Hyosan Lee**

Witnessed by:

\_\_\_\_\_

Date: \_\_\_\_\_