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12/736590

To the Director of the U.S. Patent

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1. Name of conveying party(ies)/Execution Date(s):

Dong Seung Kwon Seung Joon Lee Wooram Shin
Byung-Jae Kwak Ji Hyung Kim Chung Gu Kang
Young Seog Song Choong Il Yeh Jin-Woo Kim
08/13/10, 08/13/10, 08/13/10, 08/13/10, 08/13/10

Execution Date(s) 08/13/10, 08/16/10, 08/16/10, respectively

Additional name(s) of conveying party(ies) attached? ☐ Yes ☒ No

3. Nature of conveyance:

- ☒ Assignment ☐ Merger
☐ Security Agreement ☐ Change of Name
☐ Government Interest Assignment
☐ Executive Order 9424, Confirmatory License
☐ Other

2. Name and address of receiving party(ies)

Name: Samsung Electronics Co., Ltd.

Internal Address:

Street Address: 416, Maetan-dong, Yeongtong-gu,

Suwon-si, Gyeonggi-do, 442-742

City:

State:

Country: Republic of Korea Zip:

Additional name(s) & address(es) attached? ☒ Yes ☐ No

4. Application or patent number(s):

☒ This document is being filed together with a new application.

A. Patent Application No.(s)

B. Patent No.(s)

Additional numbers attached? ☐ Yes ☒ No

5. Name and address to whom correspondence concerning document should be mailed:

Name: Docket Clerk

Internal Address:

Street Address: P.O. Drawer 800889

City: Dallas

State: Texas Zip: 75380

Phone Number: 972-628-3600

Fax Number: 972-628-3616

Email Address:

6. Total number of applications and patents involved:

1

7. Total fee (37 CFR 1.21(h) & 3.41) \$ 40.00

- ☐ Authorized to be charged by credit card
☒ Authorized to be charged to deposit account
☒ Enclosed
☐ None required (government interest not affecting title)

8. Payment Information

a. Credit Card Last 4 Numbers

Expiration Date

b. Deposit Account Number

50-0208

Authorized User Name William A. Munck

9. Signature:

William A. Munck

Signature

October 21, 2010

Date

William A. Munck

Name of Person Signing

Total number of pages including cover sheet, attachments, and documents:

8

Documents to be recorded (including cover sheet) should be faxed to (703) 306-5995, or mailed to:
Mail Stop Assignment Recordation Services, Director of the USPTO, P.O.Box 1450, Alexandria, V.A. 22313-1450

10/22/2010 TL0022 00000021 12736590

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PATENT

REEL: 025191 FRAME: 0681

12/736590

Continued from Item #2 above

NAME: Electronics and Telecommunications Research Institute

Address: 161, Gajeong-dong
Yuseong-gu, Daejeon 305-350
Republic of Korea

DOCKET NO.: IP20080752

12/736590 PATENT

ASSIGNMENT

WHEREAS, We, **Dong Seung KWON**, resident of Daejeon, Republic of Korea, citizen of Republic of Korea; **Byung-Jae KWAK**, resident of Seoul, Republic of Korea, citizen of Republic of Korea; **Young Seog SONG**, resident of Daejeon, Republic of Korea, citizen of Republic of Korea; **Seung Joon LEE**, resident of Daejeon, Republic of Korea, citizen of Republic of Korea; **Ji Hyung KIM**, resident of Daejeon, Republic of Korea, citizen of Republic of Korea; **Choong Il YEH**, resident of Daejeon, Republic of Korea, citizen of Republic of Korea; **Wooram SHIN**, resident of Daejeon, Republic of Korea, citizen of Republic of Korea; **Chung Gu KANG**, resident of Seoul, Republic of Korea, citizen of Republic of Korea and **Jin-Woo KIM**, resident of Seoul, Republic of Korea, citizen of Republic of Korea, have invented certain new and useful improvements in a **"APPARATUS AND METHOD FOR SELECTION OF PRECODING MATRIX"** disclosed in an application for United States Letters Patent (Application Serial No. _____, filed on _____), said application having been executed concurrently herewith;

WHEREAS, **SAMSUNG ELECTRONICS CO., LTD.**, a corporation organized under the laws of the Republic of Korea, having a place of business at 416, Maetan-dong, Yeongtong-gu, Suwon-si, Gyeonggi-do, 442-742, Republic of Korea, and **ELECTRONICS AND TELECOMMUNICATIONS RESEARCH INSTITUTE**, a corporation organized under the laws of the Republic of Korea, having a business address at 161, Gajeong-dong, Yuseong-gu, Daejeon 305-350, Republic of Korea (hereinafter referred to as **"ASSIGNEES"**), is desirous of acquiring my entire right, title and interest in and to the invention, and in and to the said application and any Letters Patent that may issue thereon;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, we do hereby sell, assign and transfer unto said ASSIGNEES, its successors, assigns and legal representatives, the full and exclusive right, title and interest in and to said invention and in and to said application and all patents which may be granted therefor, and all divisions, reissues, substitutions, continuations, continuations-in-part and extensions thereof; We authorize William A. Munck or John T. Mockler of Munck Carter, LLP to insert in the parenthesis above the application number and filing date of said application when known; and we hereby authorize and request the Commissioner of Patents and Trademarks to issue all patents for said invention, or patents resulting therefrom, insofar as our interest is concerned, to the said ASSIGNEES of our entire right, title and interest.

PATENT

REEL: 025191 FRAME: 0683

We also hereby sell and assign to said ASSIGNEES, their successors, assigns and legal representatives the full and exclusive rights, title and interest to the invention disclosed in said application throughout the world, including the right to file applications and obtain patents, utility models, industrial models and designs for said invention in its own name throughout the world including all rights of priority, all rights to publish cautionary notices reserving ownership of said invention and all rights to register said invention in appropriate registries; and we further agree to execute any and all powers of attorney, applications, assignments, declarations, affidavits, and any other papers in connection therewith necessary to perfect such rights, title and interest in ASSIGNEES, their successors, assigns and legal representatives.

We hereby further agree that we will communicate to said ASSIGNEES, or to their successors, assigns and legal representatives, any facts known to us respecting any improvements; and, at the expense of said ASSIGNEES, to testify in any legal proceedings, sign all lawful papers, execute all divisional, continuation, continuation-in-part, reissue and substitute applications, and make all lawful oaths, and generally do everything possible to vest title in said ASSIGNEES and to aid said ASSIGNEES, their successors, assigns and legal representatives to obtain and enforce proper protection for said invention in all countries.

Date: <u>08/13/2010</u>	<u>X Dong Seung</u> Dong Seung KWON
Date: _____	Byung-Jae KWAK
Date: _____	Young Seog SONG
Date: _____	Seung Joon LEE
Date: <u>2010-8-13</u>	<u>Ji Hyung Kim</u> Ji Hyung KIM
Date: <u>2010.8.13</u>	<u>Choong Il YEH</u> Choong Il YEH
Date: <u>Aug. 13, 2010</u>	<u>W. Shin</u> Wooram SHIN
Date: _____	Chung Gu KANG
Date: _____	Jin-Woo KIM

We also hereby sell and assign to said ASSIGNEES, their successors, assigns and legal representatives the full and exclusive rights, title and interest to the invention disclosed in said application throughout the world, including the right to file applications and obtain patents, utility models, industrial models and designs for said invention in its own name throughout the world including all rights of priority, all rights to publish cautionary notices reserving ownership of said invention and all rights to register said invention in appropriate registries; and we further agree to execute any and all powers of attorney, applications, assignments, declarations, affidavits, and any other papers in connection therewith necessary to perfect such rights, title and interest in ASSIGNEES, their successors, assigns and legal representatives.

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Date: _____

Dong Seung KWON

Date: 2010-08-13

Byung-Jae Kwak
Byung-Jae KWAK

Date: _____

Young Seog SONG

Date: _____

Seung Joon LEE

Date: _____

Ji Hyung KIM

Date: _____

Choong Il YEH

Date: _____

Wooram SHIN

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Chung Gu KANG

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Date: _____

Dong Seung KWON

Date: _____

Byung-Jae KWAK

Date: August 13, 2010


Young Seog SONG

Date: _____

Seung Joon LEE

Date: _____

Ji Hyung KIM

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Choong Il YEH

Date: _____

Wooram SHIN

Date: _____

Chung Gu KANG

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Date: _____

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Date: _____

Byung-Jae KWAK

Date: _____

Young Seog SONG

August 13, 2010

Date: _____

Seung Joon Lee
Seung Joon LEE

Date: _____

Ji Hyung KIM

Date: _____

Choong Il YEH

Date: _____

Wooram SHIN

Date: _____

Chung Gu KANG

Date: _____

Jin-Woo KIM

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Date: _____

Dong Seung KWON

Date: _____

Byung-Jae KWAK

Date: _____

Young Seog SONG

Date: _____

Seung Joon LEE

Date: _____

Ji Hyung KIM


Date: _____

Choong Il YEH

Date: _____

Wooram SHIN

Date: Aug. 16, 2010



Chung Gu KANG

Date: Aug. 16, 2010



Jin-Woo KIM