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U.S. DEPARTMENT OF COMMERCE  
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To the Director of the U.S. Patent

and receive the attached documents or the new address(es) below.

**1. Name of conveying party(ies)**

Jin-Kyu HAN (1) Dae-Gyun KIM (2)  
Jin-Weon CHANG (3) Hwan-Joon KWON (4)  
Youn-Sun KIM (5) Dong-Hee Kim (6)  
Cheol MUN (7)

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

**3. Nature of conveyance/Execution Date(s):**

Execution Date(s) September 29, 2007

- ☒ Assignment ☐ Merger  
☐ Security Agreement ☐ Change of Name  
☐ Joint Research Agreement  
☐ 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

City: Suwon-Si

State: Gyeonggi-do

Country: Republic of Korea Zip: 442-742

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)

11/579,771

B. Patent No.(s)

Additional numbers attached? ☐ Yes ☒ No

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

Name: Roylance, Abrams, Berdo & Goodman, L.L.P.

Internal Address: Suite 600

Street Address: 1300 19th Street, N.W.

City: Washington

State: D.C. Zip: 20036

Phone Number: (202) 659-9076

Fax Number: (202) 659-9344

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 \_\_\_\_\_  
Authorized User Name \_\_\_\_\_

**9. Signature:**

Peter T. deVore

Signature

October 9, 2007

Date

Peter T. deVore, Reg. No. 60,361

Name of Person Signing

Total number of pages including cover sheet, attachments, and documents: 4

Documents to be recorded (Including cover sheet) should be faxed to (571) 273-0140, or mailed to:  
Mail Stop Assignment Recordation Services, Director of the USPTO, P.O. Box 1450, Alexandria, V.A. 22313-1450

10/11/2007 ATRAN1 00000100 11579771

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## **ASSIGNMENT**

WHEREAS, We, (1) Jin-Kyu HAN; (2) Dae-Gyun KIM; (3) Jin-Weon CHANG; (4) Hwan-Joon KWON; (5) Youn-Sun KIM; (6) Dong-Hee KIM; and (7) Cheol MUN, all citizens of the Republic of Korea, residing respectively at (1) #305, 984-6, Yeongtong-dong, Yeongtong-gu, Suwon-si, Gyeonggi-do, Republic of Korea; (2) #228-1703, Sibeom Woosung Apt., Seohyeon-dong, Bundang-gu, Seongnam-si, Gyeonggi-do, Republic of Korea; (3) #503, 1019-17, Yeongtong-dong, Yeongtong-gu, Suwon-si, Gyeonggi-do, Republic of Korea; (4) #944-614, Byeokjeokgol 9-danji Lotte APT., Yeongtong-dong, Yeongtong-gu, Suwon-si, Gyeonggi-do, Republic of Korea; (5) #1008-1104, Mujigaemaoul Samsung APT., Gumi-dong, Bundang-gu, Seongnam-si, Gyeonggi-do, Republic of Korea; (6) #124-1903, Sinbongmaeul LG Xi 1-cha APT., 873, Singbong-dong, Yongin-si, Gyeonggi-do, Republic of Korea; and (7) #131-501, Hwanggol Jugong 1-danji APT., Yeongtong-dong, Yeongtong-gu, Suwon-si, Gyeonggi-do, Republic of Korea (hereinafter "ASSIGNORS"), have made a certain invention entitled "**APPARATUS AND METHOD FOR TRANSMITTING AND RECEIVING PACKET DATA USING MULTIPLE ANTENNAS IN A WIRELESS COMMUNICATION SYSTEM**" for which we are making application for Letters Patent of the United States, which application has been filed on November 7, 2006 and assigned Serial Number 11/579,771; and

WHEREAS, Samsung Electronics Co., Ltd., a corporation duly organized under the laws of the Republic of Korea, located and doing business at 416, Maetan-dong, Yeongtong-gu, Suwon-si, Gyeonggi-do, Republic of Korea (hereinafter "ASSIGNEE"), is desirous of acquiring the entire right, title and interest in and to the aforementioned invention and the aforementioned application and any and all United States Letters Patent to be obtained on said invention and/or application;

NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN:

BE IT KNOWN that for good and valuable consideration paid to us by said ASSIGNEE, the receipt and sufficiency of which is hereby acknowledged, we, the ASSIGNORS, by these presents do hereby sell, assign, set over and transfer unto the said ASSIGNEE, its successors, legal representatives or assigns, the entire right, title and interest in and to the aforesaid invention in and for the United States; and in, to and under the aforesaid United States application and any divisional, continuing, substitute or reissue applications or supplementary disclosures which may be filed on said invention in the United States; and our right to file said applications and claim priority under the provisions of any international treaty or convention; and in and to any Letters Patent of the United States issued or granted on said invention and/or said applications;

AND WE HEREBY authorize and request the U.S. Patent and Trademark Office or other issuing authority to issue any and all patents on said invention and/or said applications to said ASSIGNEE as sole assignee;

AND WE HEREBY covenant that we have the full right to convey the entire right, title and interest herein assigned and that we have not executed and will not execute any assignment or other instrument in conflict herewith;

AND WE HEREBY further covenant and agree to communicate to said ASSIGNEE, or its legal representatives, successors or assigns, any facts relating to said invention, including evidence for interference purposes or other proceedings, whenever requested, and to testify in any interference or in any other legal proceeding, when requested, and to execute and deliver on request all lawful papers required to make any of the foregoing provisions effective; and to perform the aforesaid communicating, executing and delivering, without any payment except expenses and to perform the aforesaid testifying for reasonable compensation; and generally to do everything possible to aid the said ASSIGNEE, its successors, legal representatives or assigns to obtain and enforce proper patent protection on and for said invention in the United States, and likewise we make these provisions binding upon our heirs, legal representatives and/or administrators.

The undersigned hereby grant the firm of Roylance, Abrams, Berdo & Goodman, L.L.P. 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 and Trademark Office for recordation of this document.

IN WITNESS WHEREOF, I have hereunder set my hand and seal this 29 day of Sep., 2007.

  
Jin-Kyu HAN

Witness

IN WITNESS WHEREOF, I have hereunder set my hand and seal this 29 day of Sep., 2007.

  
Dae-Gyun KIM

Witness

IN WITNESS WHEREOF, I have hereunder set my hand and seal this 29 day of Sep., 2007.

  
Jin-Weon CHANG

Witness

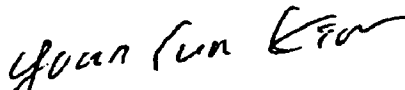
ASSIGNMENT

IN WITNESS WHEREOF, I have hereunder set my hand and seal this 29 day of  
Sep., 2007.

  
Hwan-Joon KWON

  
Witness

IN WITNESS WHEREOF, I have hereunder set my hand and seal this 29 day of  
Sep., 2007.

  
Youn Sun KIM


  
Witness

IN WITNESS WHEREOF, I have hereunder set my hand and seal this 29 day of  
Sep., 2007.

  
Dong-Hee KIM

  
Witness

IN WITNESS WHEREOF, I have hereunder set my hand and seal this 29 day of  
Sep., 2007.

  
Cheol MUN

  
Witness