

PATENT ASSIGNMENT

Electronic Version v1.1
 Stylesheet Version v1.1

| | |
|-----------------------|----------------|
| SUBMISSION TYPE: | NEW ASSIGNMENT |
| NATURE OF CONVEYANCE: | ASSIGNMENT |

CONVEYING PARTY DATA

| Name | Execution Date |
|---|----------------|
| Electronics and Telecommunications Research Institute | 01/29/2009 |

RECEIVING PARTY DATA

| | |
|-----------------|---|
| Name: | Electronics and Telecommunications Research Institute |
| Street Address: | 161 Gajeong-Dong, Yuseong-gu |
| City: | Daejeon |
| State/Country: | REPUBLIC OF KOREA |
| Postal Code: | 305-350 |

| | |
|-----------------|-------------------------------|
| Name: | Samsung Electronics Co., Ltd. |
| Street Address: | 416, Maetandong, Yeongtong-gu |
| City: | Suwon-si, Gyeonggi-do |
| State/Country: | REPUBLIC OF KOREA |
| Postal Code: | 442-742 |

PROPERTY NUMBERS Total: 3

| Property Type | Number |
|---------------------|----------|
| Application Number: | 11645658 |
| Application Number: | 11837019 |
| Application Number: | 11949837 |

CORRESPONDENCE DATA

Fax Number: (703)518-5499
Correspondence will be sent via US Mail when the fax attempt is unsuccessful.
 Phone: 703-535-7340
 Email: kchae@ipfirm.com
 Correspondent Name: Yoon S. Ham
 Address Line 1: 1700 Diagonal Road
 Address Line 2: Lowe Hauptman Ham & Berner LLP

OP \$120.00 11645658

Address Line 4: Alexandria, VIRGINIA 22314

ATTORNEY DOCKET NUMBER:

G123034-02

NAME OF SUBMITTER:

Yoon S. Ham

Total Attachments: 2

source=G123054-02_Assignment#page1.tif

source=G123054-02_Assignment#page2.tif

ASSIGNMENT

WHEREAS, **Electronics and Telecommunications Research Institute**, an institute of Republic of Korea, located and doing business at 161, Gajeong-dong, Yuseong-gu, Daejeon 305-350, Republic of Korea (hereinafter Assignor) owns U.S. Patent Application Serial No. 11/645,658, filed December 27, 2006 by virtue of an Assignment recorded December 27, 2006 on Reel 018745, Frame 0544; U.S. Patent Application Serial No. 11/837,019, filed August 10, 2007 by virtue of an Assignment recorded August 10, 2007 on Reel 019678, Frame 0350; and U.S. Patent Application Serial No. 11/949,837, filed December 4, 2007 by virtue of an Assignment recorded December 4, 2007 on Reel 020192, Frame 0045, respectively; and

WHEREAS, **Electronics and Telecommunications Research Institute**, an institute of Republic of Korea, located and doing business at 161, Gajeong-dong, Yuseong-gu, Daejeon 305-350, Republic of Korea, and **Samsung Electronics Co., Ltd.**, a corporation of Republic of Korea, located and doing business at 416, Maetan-dong, Yeongtong-gu, Suwon-si, Gyeonggi-do 442-742, Republic of Korea (hereinafter Assignees), are desirous of acquiring the complete title and interest in said patent application as a joint owner.

NOW, THEREFORE, in consideration of the sum of one dollar (\$1.00) and other good and valuable consideration, the receipt of which is hereby acknowledged, Assignor by these presents does sell, assign and transfer unto said Assignees, their successors, legal representatives, heirs and assigns the entire right, title and interest in the United States to said invention as described in said patent application, the eventual Letters Patents, and all reissues, or extensions of said Letters Patents to be held and enjoyed by said Assignees for their own use, or for their legal representatives, successors, heirs, and assigns to the full end of the term for which said Letters Patents are granted, and any extensions thereof, as fully and entirely as the same would have been held by said Assignor had this assignment and sale not been made, and for the same consideration, said Assignor hereby covenants and agrees that at the time of execution and delivery of this instrument it is the lawful owner of the complete rights, titles and interests in and to said invention and said Letters Patents above mentioned, their interests are unencumbered and that it has good and full rights and lawful authority to sell and convey its interests in the manner set forth herein; and for the same consideration Assignor hereby covenants and agrees that it will, whenever counsel for said Assignees, or counsel for their legal successors, legal representatives, heirs or assigns shall advise that any proceedings in connection with said Letters Patents or any re-issue or extension of said Letters Patents to be obtained thereon, is lawful and desirable, sign all papers and documents, make all lawful

oaths, and do all acts necessary as required to be done for the procurement, maintenance, enforcement and defense of said Letters Patent, without charge to said Assignor, its successors, legal representatives, heirs and assigns, but at the expense of said Assignees, their successors, legal representatives, heirs and assigns.

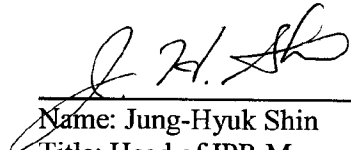
Assignor hereby further assigns to Assignees all claims and causes of action for infringement of the patent rights assigned herein, including the right to sue for, and collect damages for, any and all acts of past and future infringement.

Assignor hereby grants Lowe Hauptman Ham & Berner LLP (Customer No. 22429), 1700 Diagonal Road, Suite 300, Alexandria, VA 22314, 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.

Assignor


Electronics and Telecommunications Research Institute

Date: January 29, 2009


Name: Jung-Hyuk Shin
Title: Head of IPR Management Team

Witness:

Date: January 29, 2009


Typed Name: Cho, Joong-Won

Atty. Ref.: G123054-02