

## PATENT ASSIGNMENT

Electronic Version v1.1

Stylesheet Version v1.1

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>Dong Youn SEO</td><td>07/19/2011</td></tr><tr><td>Suck Chel YANG</td><td>07/19/2011</td></tr><tr><td>Jung Hoon LEE</td><td>07/19/2011</td></tr><tr><td>Joon Kui AHN</td><td>07/19/2011</td></tr></tbody></table>		Name	Execution Date	Dong Youn SEO	07/19/2011	Suck Chel YANG	07/19/2011	Jung Hoon LEE	07/19/2011	Joon Kui AHN	07/19/2011
Name	Execution Date										
Dong Youn SEO	07/19/2011										
Suck Chel YANG	07/19/2011										
Jung Hoon LEE	07/19/2011										
Joon Kui AHN	07/19/2011										
RECEIVING PARTY DATA											
Name:	LG Electronics Inc.										
Street Address:	20, Yeouido-dong, Yeongdeungpo-gu										
City:	Seoul										
State/Country:	REPUBLIC OF KOREA										
Postal Code:	150-721										
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>13375712</td></tr></tbody></table>		Property Type	Number	Application Number:	13375712						
Property Type	Number										
Application Number:	13375712										
CORRESPONDENCE DATA											
Fax Number:	(703)205-8050										
Phone:	703-205-8000										
Email:	mailroom@bskb.com										
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent via US Mail.</i>											
Correspondent Name:	Birch, Stewart, Kolasch & Birch, LLP										
Address Line 1:	P.O. Box 747										
Address Line 4:	Falls Church, VIRGINIA 22040-0747										
ATTORNEY DOCKET NUMBER:	5438-0279PUS1										
NAME OF SUBMITTER:	Esther H. Chong										
Total Attachments: 4 source=2011-12-01-Assignment-5438-0279PUS1#page1.tif source=2011-12-01-Assignment-5438-0279PUS1#page2.tif source=2011-12-01-Assignment-5438-0279PUS1#page3.tif source=2011-12-01-Assignment-5438-0279PUS1#page4.tif											

CH \$40.00 13375712

501742901

PATENT  
REEL: 027318 FRAME: 0697

**BIRCH, STEWART, KOLASCH & BIRCH, LLP**

UNITED STATES PATENT RIGHTS, OR  
UNITED STATES PLUS ALL FOREIGN PATENT RIGHTS

**ASSIGNMENT**

Application No. 13/375,712 Filed December 1, 2011

Insert Name(s) of Inventor(s) **\*\*\* (Given Name FAMILY NAME (ALL CAPS)) \*\*\***

WHEREAS, SEO, Dong Youn; YANG, Suck Chel; LEE, Jung Hoon and AHN, Joon Kui (hereinafter designated as the undersigned) has (have) invented certain new and useful improvements in:

Insert Title of Invention **RESOURCE MAPPING METHOD AND APPARATUS IN WIRELESS COMMUNICATION SYSTEM**  
for which an application for Letters Patent of the United States of America has been executed by the undersigned (except in the case of a provisional application)

Insert Date of Signing of Application on July 19, 2011; and

Insert Name of Assignee **WHEREAS, LG Electronics Inc.**  
Insert Address of Assignee **of 20, Yeouido-dong, Yeongdeungpo-gu, Seoul 150-721 Republic of Korea**

its heirs, successors, legal representatives and assigns (hereinafter designated as the Assignee) is desirous of acquiring the entire right, title and interest in and to said invention and in and to any Letters Patent(s) that may be granted therefor in the United States of America and

CHECK BOX IF APPROPRIATE ☒ **in any foreign countries.**

NOW, THEREFORE, in consideration of the sum of Ten Dollars (\$10.00) to the undersigned in hand paid, the receipt of which is hereby acknowledged, and other good and valuable consideration, the undersigned has (have) sold, assigned and transferred, and by these presents does sell, assign and transfer unto said Assignee the full and exclusive right to the said invention in the United States of America, its territories, dependencies and possessions and the entire right, title and interest in and to any and all Letters Patent(s) which may be granted therefor in the United States of America, its territories, dependencies and possessions, and if the box above is designated, in any and all foreign countries;

and to any and all divisions, reissues, continuations, conversions and extensions thereof for the full term or terms for which the same may be granted.

The undersigned agree(s) to execute all papers necessary in connection with this application and any continuing, divisional, conversion 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 continuation, division, conversion or reissue thereof or Letter Patent(s) or reissue patent issued thereon and to cooperate with the Assignee in every way possible in obtaining and producing evidence and proceeding with such interference.

ATTORNEY DOCKET NO.

The undersigned agree(s) to execute all papers and documents and to perform any act which may be necessary in connection with claims or provisions of the International Convention for the 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 of America patent(s) or a grant of a valid United States of America and any foreign patent(s) to the Assignee and to vest all rights therein hereby conveyed to said Assignee as fully and entirely as the same would have been held by the undersigned if this Assignment and sale had not been made.

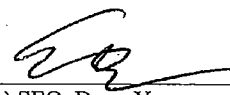
The undersigned hereby authorize(s) and request(s) the Patent and Trademark Office Officials in the United States of America and in any foreign countries to issue any and all Letters Patents resulting from said application or any continuing, divisional conversion or reissue applications thereof to the said Assignee, as Assignee of the entire interest, and hereby covenants that he has (they have) the 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.

The undersigned hereby grant(s) the law firm of Birch, Stewart, Kolasch & Birch, LLP 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 U.S. Patent and Trademark Office for recordation of this document.

The undersigned hereby covenant(s) that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment.

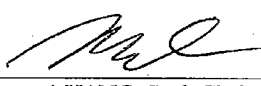
In witness whereof, executed by the undersigned on the date(s) opposite the undersigned name(s).

Date 2011. 7. 19,

Name of Inventor 

(signature) SEO, Dong Youn

Date 2011. 7. 19,

Name of Inventor 

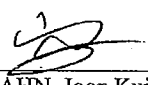
(signature) YANG, Suck Chel

Date \_\_\_\_\_,

Name of Inventor \_\_\_\_\_

(signature) LEE, Jung Hoon

Date 2011. 7. 19,

Name of Inventor 

(signature) AHN, Joon Kui

# BIRCH, STEWART, KOLASCH & BIRCH, LLP

UNITED STATES PATENT RIGHTS, OR  
UNITED STATES PLUS ALL FOREIGN PATENT RIGHTS

## ASSIGNMENT

Application No. 13/375,712 Filed December 1, 2011

Insert Name(s) of Inventor(s) **\*\*\* (Given Name FAMILY NAME (ALL CAPS)) \*\*\***

WHEREAS, SEO, Dong Youn; YANG, Suck Chel; LEE, Jung Hoon and AHN, Joon Kui (hereinafter designated as the undersigned) has (have) invented certain new and useful improvements in:

Insert Title of Invention **RESOURCE MAPPING METHOD AND APPARATUS IN WIRELESS COMMUNICATION SYSTEM**  
for which an application for Letters Patent of the United States of America has been executed by the undersigned (except in the case of a provisional application)

Insert Date of Signing of Application on July 19, 2011; and

Insert Name of Assignee **WHEREAS, LG Electronics Inc.**  
Insert Address of Assignee **of 20, Yeouido-dong, Yeongdeungpo-gu, Seoul 150-721 Republic of Korea**

CHECK BOX IF APPROPRIATE

its heirs, successors, legal representatives and assigns (hereinafter designated as the Assignee) is desirous of acquiring the entire right, title and interest in and to said invention and in and to any Letters Patent(s) that may be granted therefor in the United States of America and ☒ **in any foreign countries.**

NOW, THEREFORE, in consideration of the sum of Ten Dollars (\$10.00) to the undersigned in hand paid, the receipt of which is hereby acknowledged, and other good and valuable consideration, the undersigned has (have) sold, assigned and transferred, and by these presents does sell, assign and transfer unto said Assignee the full and exclusive right to the said invention in the United States of America, its territories, dependencies and possessions and the entire right, title and interest in and to any and all Letters Patent(s) which may be granted therefor in the United States of America, its territories, dependencies and possessions, and if the box above is designated, in any and all foreign countries;

and to any and all divisions, reissues, continuations, conversions and extensions thereof for the full term or terms for which the same may be granted.

The undersigned agree(s) to execute all papers necessary in connection with this application and any continuing, divisional, conversion 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 continuation, division, conversion or reissue thereof or Letter Patent(s) or reissue patent issued thereon and to cooperate with the Assignee in every way possible in obtaining and producing evidence and proceeding with such interference.

ATTORNEY DOCKET NO.

The undersigned agree(s) to execute all papers and documents and to perform any act which may be necessary in connection with claims or provisions of the International Convention for the Protection of Industrial Property or similar agreements.

The undersigned agree(s) to execute all papers and documents and to perform any act which may be necessary in connection with claims or provisions of the International Convention for the 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 of America patent(s) or a grant of a valid United States of America and any foreign patent(s) to the Assignee and to vest all rights therein hereby conveyed to said Assignee as fully and entirely as the same would have been held by the undersigned if this Assignment and sale had not been made.

The undersigned hereby authorize(s) and request(s) the Patent and Trademark Office Officials in the United States of America and in any foreign countries to issue any and all Letters Patents resulting from said application or any continuing, divisional conversion or reissue applications thereof to the said Assignee, as Assignee of the entire interest, and hereby covenants that he has (they have) the 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.

The undersigned hereby grant(s) the law firm of Birch, Stewart, Kolasch & Birch, LLP 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 U.S. Patent and Trademark Office for recordation of this document.

The undersigned hereby covenant(s) that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment.

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

Date _____,	Name of Inventor _____ (signature) SEO, Dong Youn
Date _____,	Name of Inventor _____ (signature) YANG, Suck Chel
Date <u>7/19/2011</u> ,	Name of Inventor  (signature) LEE, Jung Hoon
Date _____,	Name of Inventor _____ (signature) AHN, Joon Kui