

## PATENT ASSIGNMENT COVER SHEET

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 Stylesheet Version v1.2

EPAS ID: PAT5445043

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
IN KWON SEO	02/21/2012
DAE WON LEE	05/07/2012
KI JUN KIM	02/21/2012
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	LG ELECTRONICS INC.
<b>Street Address:</b>	20 YEOUIDO-DONG, YEONGDEUNGPO-GU
<b>City:</b>	SEOUL
<b>State/Country:</b>	KOREA, REPUBLIC OF
<b>Postal Code:</b>	150-721
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	15645585
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i>	
<b>Email:</b>	stadnick@fr.com, apsi@fr.com
<b>Correspondent Name:</b>	WON S. YOON
<b>Address Line 1:</b>	FISH & RICHARDSON P.C.
<b>Address Line 2:</b>	60 SOUTH SIXTH STREET
<b>Address Line 4:</b>	MINNEAPOLIS, MINNESOTA 55364
<b>ATTORNEY DOCKET NUMBER:</b>	19819-1019004
<b>NAME OF SUBMITTER:</b>	SHANNON STADNICK
<b>SIGNATURE:</b>	/Shannon Stadnick/
<b>DATE SIGNED:</b>	03/28/2019
<b>Total Attachments: 4</b>	
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source=Executed Assignment#page4.tif	

**BIRCH, STEWART, KOLASCH & BIRCH, LLP**UNITED STATES PATENT RIGHTS, OR  
UNITED STATES PLUS ALL FOREIGN PATENT RIGHTS**ASSIGNMENT**Application No. 13/509,489 Filed May 11, 2012Insert Name(s) of Inventor(s) **\*\*\* (Given Name FAMILY NAME (ALL CAPS)) \*\*\***WHEREAS, **SEO, In Kwon; LEE, Dae Won and KIM, Ki Jun** (hereinafter designated as the undersigned) has (have) invented certain new and useful improvements in:Insert Title of Invention **A METHOD AND AN APPARATUS FOR PROVIDING CHANNEL QUALITY INFORMATION IN A 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 February 21, 2012 and May 7, 2012; andInsert 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** ☒ **in any foreign countries.**  
**IF APPROPRIATE**

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.

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.

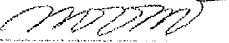
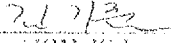
The undersigned agree(s) to perform all affirmative acts which may be necessary to obtain a grant of a valid United States of America patent(s) or a grant of a valid United States of America and any foreign patent(s) to the Assignee and to vest all rights therein hereby conveyed to said Assignee as fully 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 <u>February 21, 2012</u>	Name of Inventor <u></u> (signature) SEO, In Kwon
Date _____	Name of Inventor _____ (signature) LEE, Dae Won
Date <u>2012 / 2 / 21</u>	Name of Inventor <u></u> (signature) KIM, Ki Jun

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

Date \_\_\_\_\_

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

(signature) SEO, In Kwon

Date May 11, 2012

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

(signature) LEE, Dae Won

Date \_\_\_\_\_

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

(signature) KIM, Ki Jun