PATENT ASSIGNMENT

Electronic Version v1.1 Stylesheet Version v1.1

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
Min Seok NOH	10/31/2011
Jae Hoon CHUNG	10/31/2011
Yeong Hyeon KWON	11/01/2011
Seung Hee HAN	10/31/2011
Moon II LEE	11/07/2011

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

Property Type	Number
Application Number:	13320513

CORRESPONDENCE DATA

Fax Number: (703)205-8050 **Phone**: 7032058000

Email: Mailroom@bskb.com, majanos@bskb.com

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent

via US Mail.

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: 0-	0465-3061PUS1
NAME OF SUBMITTER:	James T. Eller, Jr.

PATENT REEL: 027229 FRAME: 0077 13320513

CH \$40.00

Total Attachments: 6

source=2011-11-15 Assignment 0465-3061PUS1#page1.tif

source=2011-11-15 Assignment 0465-3061PUS1#page2.tif

source=2011-11-15 Assignment 0465-3061PUS1#page3.tif

source=2011-11-15 Assignment 0465-3061PUS1#page4.tif

source=2011-11-15 Assignment 0465-3061PUS1#page5.tif

source=2011-11-15 Assignment 0465-3061PUS1#page6.tif

PATENT REEL: 027229 FRAME: 0078

BIRCH, STEWART, KOLASCH & BIRCH, LLP

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

ASSIGNMENT

Filed November 14, 2011 13/320,513 Application No. ***(Given Name FAMILY NAME (ALL CAPS))*** Insert Name(s) of Inventor(s) WHEREAS, NOH, Min Seok; CHUNG, Jae Hoon; KWON, Yeong Hyeon; HAN, Seung Hee and LEE, Moon II (hereinafter designated as the undersigned) has (have) invented certain new and useful improvements in: METHOD AND APPARATUS FOR TRANSMITTING SOUNDING REFERENCE Insert Title of Invention SIGNAL IN RADIO 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) 10/31/2011; 10/31/2011; 11/01/2011; 10/31/2011 and 11/07/2011 Insert Date of Signing of Application Insert Name WHEREAS, LG ELECTRONICS INC. of Assignee Insert Address of 20 Yeouido-dong, Yeongdeungpo-gu, Seoul 150-721 Republic of Korea of Assignee 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.

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.

PATENT EHC/ktp REEL: 027229 FRAME: 0079

IF APPROPRIATE

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 319t, 667, 2011	Name of Inventor	(signature) NOH, Min Scok
Date 31 Oct., 2011	Name of Inventor	(signature) CHUNG, Jae Hoon
Date	Name of Inventor	(signature) KWON, Yeong Hyeon
Date 31 001, 2011	Name of Inventor	(signature) HAN, Seung Hee
Date	Name of Inventor	(signature) LEE, Moon H

PATENT

BIRCH, STEWART, KOLASCH & BIRCH, LLP

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

ASSIGNMENT

Application No.	13	/320,513	Filed _	November 14, 2011
Insert Name(s) of Inventor(s)	***(Given Name FAMILY NAME (ALL CAPS))***			
(-)	WHEREAS, NOH, Min Scok; CHUNG, Jac Hoon; KWON, Yeong Hyeon; HAN, Scung Hee and LE Moon II (hereinafter designated as the undersigned) has (have) invented certain new and usef improvements in:			
Insert Title of Invention	METHOD AND APPARATUS FOR TRANSMITTING SOUNDING REFERENCE SIGNAL IN RADIO 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	10/31/2011; 10/31/2011;	11/01/2011; 10/	31/2011 and 11/07/2011 ; and
Insert Name of Assignee	WHEREAS, LG ELECTRONICS INC.			
Insert Address of Assignee	Address of 20 Yeouido-dong, Yeongdeungpo-gu, Seoul 150-721 Republic of Korea			public of Korea
CHECK BOX F 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 X in any foreign countries.			
				ollars (\$10.00) to the undersigned in hand

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	Name of Inventor	(signature) NOH, Min Seok
Date	Name of Inventor	(signature) CHUNG, Jae Hoon
Date <u>2011-Nov-01</u>	Name of Inventor	(signature) KWON, Yeong Hyeon
Date	Name of Inventor	(signature) HAN, Seung Hee
Date	Name of Inventor	(signature) LEE, Moon II

PATENT EHC/ktp
REEL: 027229 FRAME: 0082

BIRCH, STEWART, KOLASCH & BIRCH, LLP

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

ASSIGNMENT

Application No.	13/320,513	Filed November 14, 2011			
Insert Name(s) of Inventor(s)	***(Given Name FAMILY	***(Given Name FAMILY NAME (ALL CAPS))***			
		Hoon; KWON, Yeong Hyeon; HAN, Seung Hee and LEE, indersigned) has (have) invented certain new and useful			
Insert Title of Invention	METHOD AND APPARATUS FOR TRANSMITTING SOUNDING REFERENCE SIGNAL IN RADIO 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	on 10/31/2011; 10/31/2011; 11/01	1/2011; 10/31/2011 and 11/07/2011 ; and			
Application Insert Name of Assignce	WHEREAS, LG ELECTRONICS INC.				
Insert Address of Assignee	of 20 Yeouido-dong, Yeongdeungpo-gu, Seoul 150-721 Republic of Korea				
CHECK BOX IF APPROPRIATE	desirous of acquiring the entire right, title and Patent(s) that may be granted therefor in the $\begin{bmatrix} x \end{bmatrix}$ in any foreign countries.	and assigns (hereinafter designated as the Assignee) is d interest in and to said invention and in and to any Letters United States of America and			
IF AFFRORRIATE	NOW, THEREFORE, in consideration of the	e sum of Ten Dollars (\$10.00) to the undersigned in hand			

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.

PATENT EHC/ktp REEL: 027229 FRAME: 0083

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		Name of Inventor	(signature) NOH, Min Scok
Date		Name of Inventor	(signature) CHUNG, Jae Hoon
Date		Name of Inventor	(signature) KWON, Yeong Hyeon
Date		Name of Inventor	(signature) HAN, Seung Hee
Date	Nov. 7th, 2011	Name of Inventor	(signature) LEE, Moon II

Page 2 of 2