PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4185448

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
KYUNGHO KIM	07/15/2013
GOMER THOMAS	07/19/2013
SEUNGJOO AN	07/15/2013
JINPIL KIM	07/15/2013
SEJIN OH	07/10/2013
KYOUNGSOO MOON	07/10/2013

RECEIVING PARTY DATA

Name:	LG ELECTRONICS INC.
Street Address:	128, YEOUI-DAERO, YEONGDEUNGPO-GU
City:	SEOUL
State/Country:	KOREA, REPUBLIC OF
Postal Code:	150-721

PROPERTY NUMBERS Total: 1

Property Type	Number		
Application Number:	15378756		

CORRESPONDENCE DATA

Fax Number: (202)496-7756

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.

Phone: 202-496-7500 Email: mlaip@dentons.com **DENTONS US LLP Correspondent Name:** Address Line 1: 1900 K. STREET, N.W. Address Line 4: WASHINGTON, D.C. 20006

ATTORNEY DOCKET NUMBER:	8736.00780.US25
NAME OF SUBMITTER:	BRUCE B. VANCE
SIGNATURE:	/Bruce B. Vance/
DATE SIGNED:	12/14/2016

Total Attachments: 8

PATENT REEL: 040735 FRAME: 0413

504145602



PATENT REEL: 040735 FRAME: 0414 Theket No.:

LARRED TOFC VIJ 48US02

Assignment of Application

WHEREAS, I	(WE)	Kyungho KIM; Gomer Thomas; Se KIM; Sejin OH and Kyoungsoo MC	
······································			, respectively.
have invented certain	new a	and useful improvements in:	
A METHOD AND AN A		ATUS FOR PROCESSING A BROADCAS	ST SIGNAL INCLUDING
for which an applica	tion for	Letters Patent was executed on	
(Application No.		, Filed), and
WHEREAS, I	G EL	ECTRONICS INC.	
		ASSIGNEE") having a place of busines	ss at:
20 Yeouido-dong, Y	eongde	ungpo-gu. Seoul 150-721, Korea	

is desirous of acquiring the entire right, title and interest in and to said invention and in and to any Letters Patent that may be granted therefore in the United States and its territorial possessions and in any and all foreign countries;

NOW, THEREFORE, in consideration of the sum of FIVE DOLLARS (\$5.00), the receipt whereof is hereby acknowledged, and for other good and valuable consideration, I (WE), by these presents do self, assign and transfer unto said ASSIGNEE, the full and exclusive right to the said invention in the United States and its territorial possessions and in all foreign countries and the entire right, title and interest in and to any and all Letters patent which may be granted therefor in the United States and its territorial possessions and in any and all foreign countries and in and to any and all divisions, reissues, continuations, substitutions and renewals thereof.

I (WE) hereby authorize and request the Patent Office Officials in the United States and Its territorial possessions and any and all foreign countries to issue any and all of said Letters Patent, when granted, to said ASSIGNEE as the assignee of my (our) entire right, title and interest in and to the same, for the sole use and behalf of said ASSIGNEE, its (his) successors and assigns, to the full end of the term for which said Letters Patent may be granted, as fully and entirely as the same would have been held by me (us) had this Assignment and safe not been made.

Further, I (WE) agree that I (WE) will communicate to said ASSIGNEE or its (his) representatives any facts known to me (us) respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuation, substitute, renewal and reissue applications, execute all necessary assignment papers to cause any and all of said Letters Patent to be issued to said ASSIGNEE, make all rightful oaths, and, generally do everything possible to aid said ASSIGNEE, its (his) successors and assigns, to obtain and enforce proper protection for said invention in the United States and its territorial possessions and in any and all foreign countries.

Page 1 of 2

DC.51 o19503 1

Docket No.: LG Ref.: 13FCVL)48US02

The undersigned hereby grant(s) the firm of McKenna Long & Aldridge LLP, Attorneys at Law, 1900 K Street, N.W., Washington, D.C. 20006 the power to insert on this assignment any further identification, including the application number and filing date, 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.

Dale: 2013,1,15	(Signature of Inventor) Kyungho KIM
Date:	(Signature of Inventor) Gomer Thomas
Date: 2013. 7. 15	(Signature of inventor) Seungjoo AN
Date! 2013.7.15	(Signature of Inventor) Jinpil KIM
Date:	(Signature of Inventor) Sejin OH
Date;	(Signature of Inventor) Kyoumgeon MOON

McKenna Long & Aldridge LLP Attorneys At Law 1900 K Street, N.W. Washington, D.C. 20006

Page 2 of 2

DC:51019503.1

LG Ref: 13FCVL148U\$02

Assignment of Application

Kyungho KlM; Gomer Thomas; Seungjoo AN; Jinpir KlM; Sejin OH and Kyoungsoo MOON				
	, respectively.			
and useful improvements in:				
ATUS FOR PROCESSING A BRO AST SERVICE				
r Letters Patent was executed on				
, Filed). and			
ECTRONICS INC.				
'ASSIONEE") having a place of eungpo-gu, Seoul 150-721, Kore				
	KIM; Sejin OH and Kyoungs and useful improvements in: ATUS FOR PROCESSING A BROAST SERVICE T Letters Patent was executed on , Filed ECTRONICS INC. ASSIGNEE") having a place of			

is desirous of acquiring the entire right, title and interest in and to said invention and in and to any Letters Patent that may be granted therefore in the United States and its territorial possessions and in any and all foreign countries;

NOW, THEREFORE, in consideration of the sum of FIVE DOLLARS (\$5.00), the receipt whereof is hereby acknowledged, and for other good and valuable consideration, I (WE), by these presents do sell, assign and transfer unto said ASSIGNEE, the full and exclusive right to the said invention in the United States and its territorial possessions and in all foreign countries and the entire right, title and interest in and to any and all Letters patent which may be granted therefor in the United States and its territorial possessions and in any and all foreign countries and in and to any and all divisions, reissues, continuations, substitutions and renewals thereof.

I (WE) hereby authorize and request the Patent Office Officials in the United States and Its territorial possessions and any and all foreign countries to issue any and all of said Letters Patent, when granted to said ASSIGNEE as the assignee of my (our) entire right, title and interest in and to the same, for the sole use and behalf of said ASSIGNEE, its (his) successors and assigns, to the full end of the term for which said Letters Patent may be granted, as fully and entirely as the same would have been held by me (us) had this Assignment and sale not been made.

Further, I (WE) agree that I (WE) will communicate to said ASSIGNEE or its (his) representatives any facts known to me (us) respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuation, substitute, renewal and reissue applications, execute all necessary assignment papers to cause any and all of said Letters Patent to be issued to said ASSIGNEE, make all rightful oaths, and, generally do everything possible to aid said ASSIGNEE, its (his) successors and assigns, to obtain and enforce proper protection for said invention in the United States and its territorial possessions and in any and all foreign countries.

Page 1 of 2

DC 51019503.1

Attorneys at Law, 1900 K Street, N	rant(s) the firm of McKenna Long & Aldridge LLP, .W., Washington, D.C. 20006 the power to insert on this n, including the application number and filing date, which der to comply with the rules of the United States Patent of this document.
and tradition of the formation	
Date:	(Signature of Inventor) Kyungho KIM
Date: 19 July 2013	(Signature of Inventor) Gomer Thomas
Date:	(Signature of Inventor) Seungjoo AN
Date:	(Signature of Inventor) Jinpil KIM
Dato:	(Signature of Inventor) Sejin OH
Date:	(Signature of Inventor) Kyoungsoo MOON
MeK	enna Long & Aldridge LLP

Attorneys At Law 1900 K Street, N.W. Washington, D.C. 20006

Page 2 of 2

Docket No.:

LG Ref.: 13FCVL148US02

PATENT REEL: 040735 FRAME: 0418

LG Ref: 13FC:VL148US02

Assignment of Application

WHEREAS, I (WE)	KIM; Sejin OH and Kyoungsoo MOON				
		, respectively.			
have invented certain new	and useful improvements in:				
A METHOD AND AN APPAR AN INTERACTIVE BROADO	RATUS FOR PROCESSING A BROADCAS AST SERVICE	ST SIGNAL INCLUDING			
for which an application fo	r Letters Patent was executed on				
(Application No.	Filed), and			
WHEREAS, LG EL	ECTRONICS INC.				
(hereinafter referred to as '	'ASSIGNEE") having a place of busine	ss at:			
20 Yeonido-dong, Yeongd	eungpo-gu, Seoul 150-721, Koren				

is desirous of acquiring the entire right, title and interest in and to said invention and in and to any Letters Putent that may be granted therefore in the United States and its territorial possessions and in any and all foreign countries;

NOW, THEREFORE, in consideration of the sum of FIVE DOLLARS (\$5.00), the receipt whereof is hereby acknowledged, and for other good and valuable consideration. I (WE), by these presents do sell, assign and transfer unto said ASSIGNEE, the full and exclusive right to the said invention in the United States and its territorial possessions and in all foreign countries and the entire right, title and interest in and to any and all Letters patent which may be grunted therefor in the United States and its territorial possessions and in any and all foreign countries and in and to any and all divisions, reissues, continuations, substitutions and renewals thereof.

I (WE) hereby authorize and request the Patent Office Officials in the United States and its territorial possessions and any and all foreign countries to issue any and all of said Letters Patent, when granted, to said ASSIGNEE as the assignee of my (our) entire right, title and interest in and to the same, for the sole use and behalf of said ASSIGNEE, its (his) successors and assigns, to the full end of the term for which said Letters Patent may be granted, as fully and entirely as the same would have been held by me (us) had this Assignment and sale not been made.

Further, I (WE) agree that I (WE) will communicate to said ASSIGNEE or its (his) representatives any facts known to me (us) respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuation, substitute, renewal and reissue applications, execute all necessary assignment papers to cause any and all of said Letters Patent to be issued to said ASSIGNEE, make all rightful oaths, and, generally do everything possible to aid said ASSIGNEE, its (his) successors and assigns, to obtain and enforce proper protection for said invention in the United States and its territorial possessions and in any and all foreign countries.

Page 1 of 2

DC:51019503.1

LG Ref.; 13FCVL)48US02

The undersigned hereby grant(s) the firm of McKenna Long & Aldridge LLP, Attorneys at Law, 1900 K. Street, N.W., Washington, D.C. 20006 the power to insert on this assignment any further identification, including the application number and filing date, 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.

Oste:	
	(Signature of Inventor) Kyungho KIM
Date:	(Signature of Inventor) Gomer Thomas
Date:	(Signature of Inventor) Seungjoo AN
Date:	(Signature of Inventor) Jinpil KIM
Date: July 10, 2013	(Signature of Inventor) Sejin OH
Date:	(Signature of Inventor) Kyoungsoo MOON

McKenna Long & Aldridge LLP Attorneys At Law 1900 K Street, N.W. Washington, D.C. 20006

Page 2 of 2

DC:51019503.1

LG Ref: 13FCV1.148US02

Assignment of Application

	(i) Kyungho KiM; Gomer Thomas; Seungjoo AN; Jinpil KiM; Sejin OH and Kyoungsoo MOON					
	<u> </u>				, respe	ctively.
n new a	and useful improvement	s in:				
		G A BRO	AD	CAST SIGN	AL INCLU	IDING
ation for	r Letters Patent was exec	cuted on	Ι.			
	,	Filed). and
LG EL	ECTRONICS INC.					
				mess at:		
	APPAR ROADC/ ation for LG EL	APPARATUS FOR PROCESSIN ROADCAST SERVICE ation for Letters Patent was execution for Letters Patent was executed by the service of the service	ROADCAST SERVICE ation for Letters Patent was executed on , Filed LG ELECTRONICS INC. d to as "ASSIGNEE") having a place of	APPARATUS FOR PROCESSING A BROAD ROADCAST SERVICE ation for Letters Patent was executed on , Filed LG ELECTRONICS INC. I (o as "ASSIGNEE") having a place of bus	APPARATUS FOR PROCESSING A BROADCAST SIGN ROADCAST SERVICE ation for Letters Patent was executed on , Filed LG ELECTRONICS INC. I to as "ASSIGNEE") having a place of business at:	APPARATUS FOR PROCESSING A BROADCAST SIGNAL INCLUROADCAST SERVICE ation for Letters Patent was executed on

is desirous of acquiring the entire right, title and interest in and to said invention and in and to any Letters Patent that may be granted therefore in the United States and its territorial possessions and in any and all foreign countries;

NOW, THEREFORE, in consideration of the sum of FIVE DOLLARS (\$5.00), the receipt whereof is hereby acknowledged, and for other good and valuable consideration. I (WE), by these presents do sell, assign and transfer unto said ASSIGNEE, the full and exclusive right to the said invention in the United States and its territorial possessions and in all foreign countries and the entire right, title and interest in and to any and all Letters patent which may be granted therefor in the United States and its territorial possessions and in any and all foreign countries and in and to any and all divisions, reissues, continuations, substitutions and renewals thereof.

I (WE) hereby authorize and request the Patent Office Officials in the United States and Its territorial possessions and any and all foreign countries to issue any and all of said Letters Patent, when granted, to said ASSIGNEE as the assignee of any (our) entire right, title and interest in and to the same, for the sole use and behalf of said ASSIGNEE, its (his) successors and assigns, to the full end of the term for which said Letters Patent may be granted, as fully and entirely as the same would have been held by me (us) had this Assignment and sale not been made.

Further, I (WE) agree that I (WE) will communicate to said ASSIGNEE or its (his) representatives any facts known to me (us) respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuation, substitute, renewal and reissue applications, execute all necessary assignment papers to cause any and all of said Letters Patent to be issued to said ASSIGNEE, make all rightful oaths, and, generally do everything possible to aid said ASSIGNEE, its (his) successors and assigns, to obtain and enforce proper protection for said invention in the United States and its territorial possessions and in any and all foreign countries.

Page 1 of 2

DC.51019503 1

LG Ref.: 13FCVL148US02

The undersigned hereby grant(s) the firm of McKenna Long & Aldridge LLP, Attorneys at Law, 1900 K Street, N.W., Washington, D.C. 20006 the power to insert on this assignment any further identification, including the application number and filing date, 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.

Date:	
	(Signature of Inventor) Kyungho KIM
Date:	(Signature of inventor) Gomer Thomas
Date:	(Signature of Inventor) Seungjoo AN
Date;	(Signature of inventor) Jinpil KIM
Date:	(Signature of Inventor) Sejin OH
Date: 20/3, 7. /	(Signature of Inventor) K vonting on MOON

McKenna Long & Aldridge LLP Attorneys At Law 1900 K Street, N.W. Washington, D.C. 20006

Page 2 of 2

DC:51019503.1

PATENT REEL: 040735 FRAME: 0422

RECORDED: 12/14/2016