PATENT ASSIGNMENT

Electronic Version v1.1 Stylesheet Version v1.1

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
Suck Chel YANG	07/22/2011
Dong Youn SEO	07/22/2011
Min Gyu KIM	10/19/2011
Joon Kui AHN	07/22/2011
Jung Hoon LEE	07/22/2011

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:	13376740

CORRESPONDENCE DATA

(703)205-8050 Fax Number: 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:	0465-3074PUS1
NAME OF SUBMITTER:	Esthter H. Chong

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Total Attachments: 9

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

ASSIGNMENT

Application No.	13/3/6,/40	Filed	December 7, 2011
Insert Name(s) of Inventor(s)	***(Given Name F	'AMILY NAME (ALL CAPS))** *
,,	WHEREAS, YANG, Suck Chel; SE Hoon (hereinafter designated as the in:	O, Dong Youn; KIM, Minundersigned) have invente	n Gyu; AHN, Joon Kui and LEE, Jun d certain new and useful improvement
Insert Title of Invention	THEREFORE	SING A CARRIER A	GGREGATION AND APPARATUS s of America has been executed by th
	undersigned (except in the case of a	provisional application)	s of America has occur executed by th
Insert Date of Signing of Application	on07/22/2011, 07/22/201	11, 10/19/2011, 07/22	2/2011 and 07/22/2011 ; and
Insert Name of Assignce	WHEREAS, LG ELECTRONIC	CS INC.	
Insert Address of Assignee	of 20 Yeouido-dong Yeongdeung	po-gu Scoul 150-721 Repu	blic of Korea
CHECK BOX	its heirs, successors, legal represent desirous of acquiring the entire right, Patent(s) that may be granted therefor X in any foreign countries.	title and interest in and to	inafter designated as the Assignee) is aid invention and in and to any Letter nerica and
	paid, the receipt of which is hereby undersigned has (have) sold, assign transfer unto said Assignee the full America, its territories, dependencies any and all Letters Patent(s) which	r acknowledged, and other ed and transferred, and be and exclusive right to the sand possessions and the may be granted therefor	ars (\$10.00) to the undersigned in hand good and valuable consideration, the y these presents does sell, assign and said invention in the United States of entire right, title and interest in and to in the United States of America, it is designated, in any and all foreign

and to any and all divisions, reissues, continuations, conversions and extensions thereof for the full

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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 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 Assignce, as Assignce 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	22, July, 2011	, Name of Inventor	(signature) YANG, Suck Chel
Date	22. July, 2011	, Name of Inventor	(signature) SEO, Dong Youn
Date		, Name of Inventor	(signature) KIM, Min Gyu
Date	22 July. 2011	, Name of Inventor	(signature) AHN, Joon Kui

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Date		Name of Inventor	
		Towns 1 7 was taken ta annualyan ta and pena 1	(signature) LEE, Jung Hoon

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ASSIGNMENT

Application No.	13/376,740	Filed	December 7, 2011
Insert Name(s) of Inventor(s)	***(Give	en Name FAMILY NAME (ALL (CAPS))***
,	WHEREAS, YANG, Suck Hoon (hereinafter designate in:	Chel; SEO, Dong Youn; KINed as the undersigned) have in	f, Min Gyu; AHN, Joon Kui and LEE, Jung vented certain new and useful improvements
Insert Title of Invention	THEREFORE		R AGGREGATION AND APPARATUS States of America has been executed by the
	undersigned (except in the c	ase of a provisional application	n)
Insert Date of Signing of	on07/22/2011, 07	7/22/2011, 10/19/2011,	07/22/2011 and 07/22/2011 ; and
Application Insert Name of Assignee	WHEREAS, LG ELEC	TRONICS INC.	
Insert Address of Assignee	of 20 Yeouido-dong Yeo	ngdeungpo-gu Seoul 150-721	Republic of Korea
CHECK BOX	desirous of acquiring the ent	tire right, title and interest in a I therefor in the United States	(hereinafter designated as the Assignee) is nd to said invention and in and to any Letters of America and
	paid, the receipt of which undersigned has (have) sold transfer unto said Assignee America, its territories, depe any and all Letters Patent(is hereby acknowledged, and d, assigned and transferred, a the full and exclusive right the endencies and possessions and s) which may be granted the	Dollars (\$10.00) to the undersigned in hand other good and valuable consideration, the and by these presents does sell, assign and the said invention in the United States of the entire right, title and interest in and to erefor in the United States of America, its above is designated, in any and all foreign
	and to any and all divisions term or terms for which the s	s, reissues, continuations, con same may be granted.	versions and extensions thereof for the full

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.

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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.

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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) YANG, Suck Chel
Date	, Name of Inventor (signature) SEO, Dong Youn
Date	, Name of Inventor (signature) KIM, Min Gyu
Date	, Name of Inventor (signature) AHN, Joon Kui

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Date	7/22/2011	Name of Inventor	
			(signature) LEE, Jung Hoon

BIRCH, STEWART, KOLASCH & BIRCH, LLP

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

ASSIGNMENT

Application No.	13/376,740	Filed	December 7, 2011	
Insert Name(s) of Inventor(s)	***(Given	Name FAMILY NAME (ALL CA	4PS))***	
	WHEREAS, YANG, Suck Cl Hoon (hereinafter designated in:	nel; SEO, Dong Youn; KIM, as the undersigned) have inv	Min Gyu; AHN, Joon Kui and LEE, Jung ented certain new and useful improvements	
Insert Title of Invention	COMMUNICATION METHO THEREFORE for which an application for L undersigned (except in the case	etters Patent of the United S	R AGGREGATION AND APPARATUS States of America has been executed by the	
Insert Date of Signing of Application	on <u>07/22/2011</u> , <u>07/22</u>	/2011, 10/19/2011, 07/	22/2011 and 07/22/2011 ; and	
Insert Name	WHEREAS, LG ELECTI			
of Assignee Insert Address of Assignee	of 20 Yeouido-dong Yeong	deungpo-gu Seoul 150-721 R	Republic of Korea	
CHECK BOX	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.			
a AFRONGATE	paid, the receipt of which is undersigned has (have) sold, transfer unto said Assignee th America, its territories, depend any and all Letters Patent(s)	hereby acknowledged, and a assigned and transferred, are full and exclusive right to lencies and possessions and which may be granted ther	Dollars (\$10.00) to the undersigned in hand other good and valuable consideration, the nd by these presents does sell, assign and the said invention in the United States of the entire right, title and interest in and to refor in the United States of America, its above is designated, in any and all foreign	
	and to any and all divisions, a term or terms for which the san	cissues, continuations, conv	ersions and extensions thereof for the full	

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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) YANG, Suck Chel	
Date		3	Name of Inventor	(signature) SEO, Dong Youn	
Date	2011, 10.19	,	Name of Inventor	(signature) KIM, Min Gyu	a recovery and the second
Date		,	Name of Inventor	(signature) AHN, Joon Kui	

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- Ir	Date l		NI	
jL.	mic		Name of Inventor	
-		 *		AND
ı	- 1			(signature) LEE, Jung Hoon
- 1				(Signature) Lee, June moon
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