PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3179266

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
BONGHOE KIM	11/05/2014
DONGYOUN SEO	11/05/2014
JOONKUI AHN	11/05/2014

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:	14527401		

CORRESPONDENCE DATA

Fax Number: (703)205-8050

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: (703) 205-8000

Email: mailroom@bskb.com, lboone@bskb.com

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:	0465-4618PUS1
NAME OF SUBMITTER:	LA TESA BOONE
SIGNATURE:	/LA TESA BOONE/
DATE SIGNED:	01/12/2015

Total Attachments: 6

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PATENT REEL: 034685 FRAME: 0952

BIRCH, STEWART, KOLASCH & BIRCH, LLP

P.O. Box 747 • Falls Church, Virginia 22040-0747 Telephone: (703) 205-8000 • Facsimile: (703) 205-8050 • Email: mailroom@bskb.com

DECLARATION AND ASSIGNMENT FOR PATENT AND DESIGN APPLICATIONS

UNITED STATES PATENT RICHTS, OR

		United States Plus all Poreign Patent Rights					
Title of Invention	ಭ	METHOD AND APPARATUS FOR TRANSMITTING MODULATION SYMBOL USING 256QAM IN A WIRELESS ACCESS SYSTEM					
		As a below named inventor (hereinafter designated as the undersigned), I hereby declare that:					
		This declaration is directed to the application attached hereto.					
Application not Attached	0)	If the application is not attached hereto, the application is as identified by the attorney docket number a set forth above and/or the following:					
Enter Applic No.	pptn. No. • United States Application Number or PCT International Applin. No. 14/527,401						
Enter Filling Date	ψ	filed on October 29, 2014					
		The above-identified application was made or authorized to be made by me.					
		I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.					
		I have reviewed and understand the contents of the above-identified application, including the claims.					
		I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations § 1.56.					
		WHEREAS, the undersigned has invented certain new and useful improvements described in the application identified.					
Insert Name of Assignee	ø	WHEREAS, LG ELECTRONICS INC.					
Insert Address of Assignee	r\$	of 128, Yeoui-daero 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, for good and valuable consideration, the receipt of which is hereby acknowledged, the undersigned has sold, assigned and transferred, and by these presents does (do) 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 of terms for which the same may be granted.					

Page 1

89K8-DECA5SIGN(09-12)

Attorney Docket No. 0465-4618PUS1

The undersigned agrees 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 agrees 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 Letters 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 agrees 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 agrees 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 authorizes and requests the Patent and Trademark Office Officials in the United States of America and in any foreign countries to issue any and all Letters Patent(s) 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 the full right to convey the entire interest herein assigned, and that he has not executed, and will not execute, any agreement in conflict herewith.

The undersigned hereby grants the law firm of Birch, Stewart, Kolasch & Birch, LLP the power to insert any further identification which may be necessary or desirable in order to comply with the rules of the U.S. Patent and Trademark Office.

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

The undersigned hereby acknowledges that any willful false statement made in this declaration is punishable under 18 U.S.C. § 1001 by fine or imprisonment of not more than five (5) years, or both.

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

LEGAL NAME OF INVENTOR

loventer's Name	ĸ	Inventor:	Bonghoe KIM	Date:	2014	11.5	
Inventor's Signature	φ	Signature:	Alve	*******			
An application Use à separate i	da or	ta sheet (PTC m for each is	O/SB/14 or equivalent), including naming the entire inventive eventor; or check the box below and complete the attached page.	e entity, ge(s) to	, must accu list addition	mpany this form, mal inventors,	
Additional	ini	æntors are b	eing named on the 1 supplemental sheet(s) attached hereto.				

Page 2

BSKB-DECASSION-SINGLE (09-12)

SUPPLEMENTAL SHEET FOR DECLARATION AND ASSIGNMENT

ADDITIONAL INVENTOR(S) Supplemental Sheet Page 1 of 1

LEGAL NAME OF JOINT INVENTOR, IF ANY

Inventor's Name ×	4.1	Date: 2014 - 11 -05
	* Inventor: Dongyoun SEO	Date: 2017 11 705
loventor's Signature *	Signature:	
	LEGAL NAME OF JOINT INVENTOR, IF ANY	
Inventor's Name ==		
	* Inventor: Joonkui AHN	Date:
Inventor's Signature	Signature:	· · · · · · · · · · · · · · · · · · ·
	LEGAL NAME OF JOINT INVENTOR, IF ANY	
inventor's Name	*Inventor:	Date:
Inventor's Signature	⇒Signature:	•
	LEGAL NAME OF JOINT INVENTOR, IF ANY	·
Inventor's Name	*Inventor:	Date:
Inventor's Signature	*Inventor: *Signature:	
	LEGAL NAME OF JOINT INVENTOR, IF ANY	
Inventor's Name	*Inventor:	Date:
Inventor's Eignature	*Signature:	
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Inventor's Signature	*Signature:	
	LEGAL NAME OF JOINT INVENTOR, IF ANY	
Inventor's Name	**Inventor;	Date:
Inventor's Signature	*Signature:	
	LEGAL NAME OF JOINT INVENTOR, IF ANY	
Inventor's Name	*Inventor:	Date:
Inventor's Signature		

BSK8-DECASSION\(09-12)

REEL: 034685 FRAME: 0955

BIRCH, STEWART, KOLASCH & BIRCH, LLP

P.O. Box 747 • Falls Church, Virginia 22040-0747 Telephone: (703) 205-8000 • Facsimile: (703) 205-8050 • Email: mailroom@bskb.com

DECLARATION AND ASSIGNMENT FOR PATENT AND DESIGN APPLICATIONS

	United States Patent Rights, or United States Plus all Foreign Patent Rights
Nile of Invention	" METHOD AND APPARATUS FOR TRANSMITTING MODULATION SYMBOL USING 256QAM IN A WIRELESS ACCESS SYSTEM
	As a below named inventor (hereinafter designated as the undersigned), I hereby declare that:
	This declaration is directed to the application attached hereto.
Application not Mached	If the application is not attached hereto, the application is as identified by the attorney docket number as set forth above and/or the following:
ister Appin, No.	* United States Application Number or PCT International Appln. No. 14/527,401
inter Filling Date	⇒ filed on October 29, 2014
	The above-identified application was made or authorized to be made by me.
	I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.
	I have reviewed and understand the contents of the above-identified application, including the claims.
	I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations § 1.56,
	WHEREAS, the undersigned has invented certain new and useful improvements described in the application identified.
nsert Name I Assignee	* WHEREAS, LG ELECTRONICS INC.
nsert Address if Assignee	⇔ of 128, Yeoui-daero 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
heck Box if appropriate	→ in any foreign countries.
	NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, the undersigned has sold, assigned and transferred, and by these presents does (do) 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.

Page 1

BSK8-DECASSIGN(89-12)

The undersigned agrees 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 agrees 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.

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The undersigned hereby grants the law firm of Birch, Stewart, Kolasch & Birch, LLP the power to insert any further identification which may be necessary or desirable in order to comply with the rules of the U.S. Patent and Trademark Office.

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

The undersigned hereby acknowledges that any willful false statement made in this declaration is punishable under 18 U.S.C. § 1001 by fine or imprisonment of not more than five (5) years, or both.

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

LEGAL NAME OF INVENTOR

Inventor's Name	εŞ	Inventor:	Bonghoe KIM	Date:	
Inventor's Signature	, 10	Signature:			
			O/SB/14 or equivalent), including naming the entire inventive inventive inventor; or check the box below and complete the attached page.		
Additional	in	ventors are b	eing named on the supplemental sheet(s) attached heret	o,	

SUPPLEMENTAL SHEET FOR DECLARATION AND ASSIGNMENT

ADDITIONAL INVENTOR(S) Supplemental Sheet Page 1 of 1

LEGAL NAME OF JOINT INVENTOR, IF ANY Inventor's Name * Inventor: Dongyoun SEO Inventor's Signature 🗢 Signature: LEGAL NAME OF JOINT INVENTOR, IF ANY Inventor: Joonkui AHN Inventor's Signature: LEGAL NAME OF JOINT INVENTOR, IF ANY Date: Invenior's Signature: LEGAL NAME OF JOINT INVENTOR, IF ANY ⇔Inventor: Date: Inventor's Signature Signature: LEGAL NAME OF JOINT INVENTOR, IF ANY ⇔laventor: Date: Inventor's Signature ~Signature: LEGAL NAME OF JOINT INVENTOR, IF ANY invertor's Name olaventor: Inventor's Signature *Signature: LEGAL NAME OF JOINT INVENTOR, IF ANY ⇔hiventor: Inventor's Signature Signature:

LEGAL NAME OF JOINT INVENTOR, IF ANY

twenter's Signature:

BSKB-DECASSION (09-12)

PATENT REEL: 034685 FRAME: 0958

RECORDED: 01/12/2015

≈inventor.