PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3154885

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
SUNGHO PARK	12/17/2014
KYUJIN PARK	12/17/2014
JIWOONG JANG	12/17/2014
HANGYU CHO	12/17/2014
JIWON KANG	12/17/2014
DONGCHEOL KIM	12/17/2014
DONGGUK LIM	12/17/2014

RECEIVING PARTY DATA

Name:	LG ELECTRONICS INC.
Street Address:	20, YEOUIDO-DONG, YEONGDEUNGPO-GU
City:	SEOUL
State/Country:	KOREA, REPUBLIC OF
Postal Code:	150-721

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	14407417

CORRESPONDENCE DATA

Fax Number: (703)205-8050

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using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

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Correspondent Name: BIRCH, STEWART, KOLASCH & BIRCH, LLP
Address Line 1: 8110 GATEHOUSE ROAD, SUITE 100E

Address Line 4: FALLS CHURCH, VIRGINIA 22042

ATTORNEY DOCKET NUMBER:	0465-4662PUS1	
NAME OF SUBMITTER:	SANDRA MAJANO	
SIGNATURE:	/sandra majano/	
DATE SIGNED:	12/18/2014	

Total Attachments: 9

PATENT
REEL: 034551 FRAME: 0492

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PATENT REEL: 034551 FRAME: 0493

LG Ref.: 12FCCM1641US02 KBK No. OPP-TZ-2013-0008-US-00

BIRCH, STEWART, KOLASCH & BIRCH, LLP

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

ASSIGNMENT

Application N	0,:	14/407,417	Filed:	December 11, 2014
Insert Name(s) of Inventor(s)	₽	***(Given Name FAMILY NAME (ALL C. WHEREAS, Sungho PARK, Kyujin PAI KIM and Dongguk LIM as the undersig in:	RK, Jiwoong JANG,	Hangyu CHO, Jiwon KANG, Dongcheol nted certain new and useful improvements
Insert Title of Invention	⇔		TEM FOR HIGH-SPE LLONG FIXED ROUT	EED MOVING OBJECT THAT MOVES TE
		for which an application for Letters Pat undersigned (except in the case of a provi	ent of the United Sta sional application)	tes of America has been executed by the
Insert Date of Signing of Appln.	¢	on 12/01/14; 12/02/14; & 12/15/2	014	; and
Insert Name of Assignee	⇔	WHEREAS, LG ELECTRONICS INC.		
Insert Address of Assignee	⇔	of 20, Yeouido-dong, Yeongdeungpo-gu,	Seoul 150-721, Republ	lic of Korea,
		its heirs, successors, legal representatives of acquiring the entire right, title and into that may be granted therefor in the United	erest in and to said in	fter designated as the Assignee) is desirous vention and in and to any Letters Patent(s) nd
Check Box if Appropriate	⇔	in any foreign countries.		
		the undersigned has (have) sold, assigned and transfer unto said Assignee the full America, its territories, dependencies and all Letters Patent(s) which may be dependencies and possessions, and if the	ed and transferred, as and exclusive right to I possessions and the granted therefor in the box above is designa ations, conversions as	e receipt of which is hereby acknowledged, and by these presents does (do) sell, assign to the said invention in the United States of entire right, title and interest in and to any see United States of America, its territories, ted, in any and all foreign countries; and to and extensions thereof for the full term or

LG Ref.: 12FCCM1641US02 KBK No. OPP-TZ-2013-0008-US-00

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 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 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 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 (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 .	111, Dec , 2014	Name of Inventor	
			(Signature) Sungho PARK
Date		Name of Inventor	
			(Signature) Kyujin PARK
Date		Name of Inventor	***************************************
			(Signature) Jiwoong JANG

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BSKB-ASSIGN-SINGLE (09-12) EHC/EHC/jdb

LG Ref.: 12FCCM1641US02 KBK No. OPP-TZ-2013-0008-US-00

Date	11. Dec. 2014	Name of Inventor
Thata	111 Dec. 2014	(Signature) Hangyu CHO
Late		Name of Inventor (Signature) Jiwon KANG
Date	11. Dec. 2014	Name of Inventor (Signature) Dongcheol KIM
Date	Dec. 11, 2014	Name of Inventor OLES

ğ

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United States Patent Rights, or United States Plus all Foreign Patent Rights

ASSIGNMENT

Application N	o.:	14/407,417	Filed:	December 11, 2014
Insert Name(5) of Inventor(s)	4	remained, swinging remain, myujum re	RK, Jiwoong JANG, I	Hangyu CHO, Jiwon KANG, Dongcheol ted certain new and useful improvements
Insert Title of Invention	₽		STEM FOR HIGH-SPE ALONG FIXED ROUT	ED MOVING OBJECT THAT MOVES E
		for which an application for Letters Pa undersigned (except in the case of a prov		tes of America has been executed by the
Insert Date of Signing of Appln.	ಳ	on 12/01/14; 12/02/14; & 12	/15/2014	; and
Insert Name of Assignee	¤ >	WHEREAS, LG ELECTRONICS INC.		
Insert Address of Assignee	₽	of 20, Yeouido-dong, Yeongdeungpo-gu	, Seoul 150-721, Republ	ic of Korea,
			terest in and to said in	ter designated as the Assignee) is desirous vention and in and to any Letters Patent(s) id
Check Box if Appropriate	4	in any foreign countries.		
		the undersigned has (have) sold, assign and transfer unto said Assignee the ful America, its territories, dependencies ar and all Letters Patent(s) which may be dependencies and possessions, and if the	ned and transferred, and I and exclusive right to and possessions and the e granted therefor in the box above is designa uations, conversions as	receipt of which is hereby acknowledged, and by these presents does (do) sell, assign to the said invention in the United States of entire right, title and interest in and to any the United States of America, its territories, ted, in any and all foreign countries; and to and extensions thereof for the full term or

LG Ref.: 12FCCM1641US02 KBK No. OPP-TZ-2013-0008-US-00

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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 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 (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) Sungho PARK
Date	2014. 12.17	Name of Inventor	(Signature) Kyujin PARK
Date	***************************************	Name of Inventor	(Signature) Jiwoong JANG

BIRCH, STEWART, KOLASCH & BIRCH, LLP

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BSKB-ASSIGN-SINGLE (09-12) EHC/EHC/jdt

LG Ref.: 12FCCM1641US02 KBK No. OPP-TZ-2013-0008-US-00

Date	 Name of Inventor	(Signature) Hangyu CHO
Date	Name of Inventor	(Signature) Jiwon KANG
Date	 Name of Inventor	(Signature) Dongcheol KIM
Date	 Name of Inventor	(Signature) Dongguk LIM

LG Ref.: 12FCCM1641US02 KBK No. OPP-TZ-2013-0008-US-00

BIRCH, STEWART, KOLASCH & BIRCH, LLP

United States Patent Rights, or United States Plus all Foreign Patent Rights

ASSIGNMENT

Application No.:		14/407,417	Filed:	December 11, 2014	
Insert Name(s) of Inventor(s)	***(Given Name FAMILY NAME (ALL CAPS))*** *** WHEREAS, Sungho PARK, Kyujin PARK, Jiwoong JANG, Hangyu CHO, Jiwon KANG, D. KIM and Dongguk LIM as the undersigned) has (have) invented certain new and useful impresin:				
Insert Title of Invention		WIRELESS COMMUNICATION SY	STEM FOR HIGH-SPE ALONG FIXED ROUT	ED MOVING OBJECT THAT MOVES E	
		for which an application for Letters Pundersigned (except in the case of a pro		tes of America has been executed by the	
Insert Date of Signing of Appln.	⇔	on 12/01/14; 12/02/14; &	12/15/2014	; and	
Insert Name of Assignee	\$	WHEREAS, LG ELECTRONICS INC.			
Insert Address of Assignee	⇨	of 20, Yeouido-dong, Yeongdeungpo-gu	ı, Seoul 150-721, Republ	ic of Korea,	
			nterest in and to said inv	ter designated as the Assignee) is desirous vention and in and to any Letters Patent(s) d	
Check Box if Appropriate	E\$	in any foreign countries.			
		NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, the undersigned has (have) 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.			

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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) Surigho PARK
Date		Name of Inventor	(Signature) Kyujin PARK
Date	11. Dec. 7014	Name of Inventor	Signature) liwoong IANG

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BSKB-ASSIGN-SINGLE (09-12) EHC/EHC/Jdb

LG Ref.: 12FCCM1641US02 KBK No. OPP-TZ-2013-0008-US-00

Date		Name of Inventor		
	And the state of t		(Signature) Hangyu CHO	
Date		Name of Inventor	(Signature) Jiwon KANG	
Date		Name of Inventor	(Signature) Dongcheol KIM	
Date	•	Name of Inventor	Gionaturel Dangouk T.IM	

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PATENT REEL: 034551 FRAME: 0502