504943343 06/04/2018

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4990089

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
KEAL DOO MOON	04/06/2018
DONG YONG LEE	06/01/2018
SANG JUN LEE	04/06/2018

RECEIVING PARTY DATA

Name:	LG INNOTEK CO., LTD.
Street Address:	17TH FLOOR, LG SEOULSTATIONBUILDING, 98, HUAM-RO, JUNG-GU
City:	SEOUL
State/Country:	KOREA, REPUBLIC OF
Postal Code:	04637

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15771281

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 few number, if provided if that is unsuccessful, it will be sent via US Mail.

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, Tuyet.A.Nguyen@bskb.com
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:	5934-0165PUS1
NAME OF SUBMITTER:	TUYET ANH NGUYEN
SIGNATURE:	/TUYET ANH NGUYEN/
DATE SIGNED:	06/04/2018
	This document serves as an Oath/Declaration (37 CFR 1.63).

Total Attachments: 8

source=2018-06-04_DecAssignment-SubstituteStatement_5934-0165PUS1#page1.tif source=2018-06-04_DecAssignment-SubstituteStatement_5934-0165PUS1#page2.tif source=2018-06-04_DecAssignment-SubstituteStatement_5934-0165PUS1#page3.tif

PATENT 504943343 REEL: 045980 FRAME: 0318

source=2018-06-04_DecAssignment-SubstituteStatement_5934-0165PUS1#page4.tif source=2018-06-04_DecAssignment-SubstituteStatement_5934-0165PUS1#page5.tif source=2018-06-04_DecAssignment-SubstituteStatement_5934-0165PUS1#page6.tif source=2018-06-04_DecAssignment-SubstituteStatement_5934-0165PUS1#page7.tif source=2018-06-04_DecAssignment-SubstituteStatement_5934-0165PUS1#page8.tif

PATENT REEL: 045980 FRAME: 0319 SN: 15/771,281

Filed on April 26, 2018

Attorney Docket No.: 5934-0165PUS1

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

Title of Invention → LIGHT EMITTING DEVICE PACKAGE AND LIGHTING SYSTEM COMPRISING SAME 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 🕆 If the application is not attached hereto, the application is as identified by the attorney docket number as Attached

set forth above and/or the following:

Enter Appln. No. ⇒ United States Application Number or PCT International Appln. No. PCT/KR2016/012104

Enter Filing Date ⇒ filed on October 26, 2016

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

➡ WHEREAS, LG INNOTEK CO., LTD.

Insert Address of Assignee

of 98, Huam-ro, Jung-gu, Seoul 04637, 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 or terms for which the same may be granted.

SN: 15/771,281 Filed on April 26, 2018

2018/04/06 문길두

LGOI노텍/x.x.x.172 문길두

Attorney Docket No.: 5934-0165PUS1

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

Inventor's Name	⇒ Inventor:	Dong Yong LEE		Date:	
Inventor's Signatur	e ⇒ Signature	·			
				ve entity, must accompany this form age(s) to list additional inventors.	1-
Additiona A	I inventors are	being named on the 1 supplem	ental sheet(s) attached hereto.		

SN: 15/771,281 Filed on April 26, 2018

2018/04/06 문일두

LGOI노텍/x.x.x.172 문일두

Attorney Docket No.: 5934-0165PUS1

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:	Sang Jun LEE	Date: _	
Inventor's Signature	⇔	Signature:			
		LEGAL NA	AME OF JOINT INVENTOR, IF ANY		
Inventor's Name	⇔	Inventor:	Keal Doo MOON	Date: _	20/8: 4.6
Inventor's Signature	₽	Signature:	Keal doo.		

SN: 15/771,281 Filed on April 26, 2018

2018/06/01 김민환 LG이노텍/x.x.x.177 김민환

Attorney Docket No.: 5934-0165PUS1

Doc code: Oath

Document Description: Oath or declaration filed

PTO/AIA/02 (07-13)
Approved for use through 91/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

SUBSTITUTE STATEMENT IN LIEU OF AN OATH OR DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (35 U.S.C. 115(d) AND 37 CFR 1.64)

Title of Invention	LIGHT EMITTING DEVI	ICE PACKAGE AND SAME	LIGHTING SYSTE	M COMPRISING
This stateme	ent is directed to:			
The atta	ached application,			
OR	••			
✓ United 5	States application or PCT international	l application number <u>PCT/K</u> f	R2016/012104 filed on	October 26, 2016
LEGAL NA	ME of inventor to whom this sul	bstitute statement appli	ies;	
(<i>E.g.</i> , Given	Name (first and middle (if any)) and F	amily Name or Surname)		
Dong Yon	g LEE			
Residence (e	except for a deceased or legally incapa	acitated inventor):		
City Seoul		State	Country KR	
-	ss (except for a deceased or legally incapa 6 Seculstationbuilding, 98, Huam-ro, Jung-	acitated inventor):		
City Seoul		State	Zip ⁰⁴⁶³⁷	Country KR
I believe the in the app	above-named inventor or joint invento dication.	or to be the original inventor	or an original joint invento	r of a claimed invention
The above-ic	dentified application was made or auth	norized to be made by me.		
I hereby acknowledge that any willful false statement made in this statement is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.				
Relationship to the inventor to whom this substitute statement applies:				
	gal Representative (for deceased or le signee	agaily incapacitated inventor	only),	
Assignee, Response whom the inventor is under an obligation to seeign				
	Person to whom the inventor is under an obligation to assign, Person who otherwise shows a sufficient proprietary interest in the matter (petition under 37 CFR 1.46 is required), or			
	int Inventor.	t proprietary interest in the n	illatter (bernou duder 2). O	FK 1.40 IS IBQUIIBU), GI

[Page 1 of 2]

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Palent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

2018/06/01 김민환 LG이노텍/x.x.x.177 김민환

> SN: 15/771,281 Filed on April 26, 2018

Attorney Docket No.: 5934-0165PUS1

PTO/SB/AIA02 (07-13) Approved for use through 01/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

SUBSTITUTE STATEMENT

Circumstances permitting execution of this su	bstitute statement:				
Inventor is deceased,					
Inventor is under legal incapacity,					
Inventor cannot be found or reached	after diligent effort, or				
Inventor has refused to execute the	oath or declaration under 37 Ci	FR 1.63.			
If there are joint inventors, please check the a	ppropriate box below:				
An application data sheet under 37 of or is currently submitted.	CFR 1.76 (PTO/AIA/14 or equiv	alent) naming the enti	re inventive entity has been		
OR					
An application data sheet under 37 (Statement Supplemental Sheet (PTC information is attached. See 37 CFR	D/AIA/11 or equivalent) naming				
	WARNING:				
Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identify theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.					
PERSON EXECUTING THIS SUBSTITUTE STA	ATEMENT:				
June 01, 2018 Name: NIN HWAW KIM Date (Optional):					
Signature: MIN HIVAV KIM					
APPLICANT NAME AND TITLE OF PERSON					
f the applicant is a juristic entity, list the applica	nt name and the title of the sigr	ner:			
Applicant Name: LG Innotek Co., Ltd					
Title of Person Executing This Substitute Statement: KillawC		E			
The signer, whose title is supplied above, is authorized to act on behalf of the applicant. Residence of the signer (unless provided in an application data sheet, PTO/AIA/14 or equivalent):					
		-	,		
City Seoul State Country KR					
Mailing Address of the signer (unless provided in an application data sheet, PTO/AIA/14 or equivalent) LG INNOTEK CO., LTD. 17th Floor, LG Seoulstationbulkding, 98, Huam-ro, Jung-gu,					
	State	Zip 04637	Country KR		
Note: Use an additional PTO/AIA/02 form for ea after diligent effort, or has refused to execute th			annot be found or reached		

[Page 2 of 2]

SN: 15/771,281

Filed on April 26, 2018 Attorney Docket No.: 5934-0165PUS1

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

Title of Invention → LIGHT EMITTING DEVICE PACKAGE AND LIGHTING SYSTEM COMPRISING SAME 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

⇒ 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:

Enter Appln. No. ⇒ United States Application Number or PCT International Appln. No. PCT/KR2016/012104

Enter Filing Date ⇒ filed on October 26, 2016

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

⇒ WHEREAS, LG INNOTEK CO., LTD.

Insert Address of Assignee

⇒ of 98, Huam-ro, Jung-gu, Seoul 04637, 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 or terms for which the same may be granted.

SN: 15/771,281 Filed on April 26, 2018

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 N	AME OF INVENTOR	
Inventor's Name	⇒ Inventor:	Dong Yong LEE	Date:
Inventor's Signature	⇒ Signature:		

An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form. Use a separate form for each inventor; or check the box below and complete the attached page(s) to list additional inventors.

igthedge Additional inventors are being named on the $\underline{1}$ supplemental sheet(s) attached hereto.

BSKB-DECASSIGN\(09-12)

Attorney Docket No.: 5934-0165PUS1

2018/04/05 이성준 LS이노텍/x.x.x.147 이성준

Attorney Docket No.: 5934-0165PUS1

SUPPLEMENTAL SHEET FOR DECLARATION AND ASSIGNMENT

ADDITIONAL INVENTOR(S) Supplemental Sheet Page 1 of 1

LEGAL N	AME OF JOINT INVENTOR, IF ANY		
Inventor's Name	Sang Jun LEE	Date: _	April 6, 2018
Inventor's Signature ⇒ Signature:	0 15%		· · ·
LEGAL N	AME OF JOINT INVENTOR, IF ANY		
Inventor's Name ⇒ Inventor:	Keal Doo MOON	_ Date: _	
Inventor's Signature D. Cianata			

BSKB-DECASSIGN\(09-12)

RECORDED: 06/04/2018