504607602 10/24/2017

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4654315

| SUBMISSION TYPE: | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT |

CONVEYING PARTY DATA

| Name | Execution Date |
|----------------|----------------|
| XIAOCHEN NIU | 09/08/2017 |
| XUE DONG | 09/08/2017 |
| XIAOCHUAN CHEN | 09/08/2017 |
| WENQING ZHAO | 09/08/2017 |
| MING YANG | 09/08/2017 |
| QIAN WANG | 09/08/2017 |
| PENGCHENG LU | 09/08/2017 |
| JIAN GAO | 09/08/2017 |
| LEI WANG | 09/08/2017 |
| RUI XU | 09/08/2017 |

RECEIVING PARTY DATA

| Name: | BOE TECHNOLOGY GROUP CO., LTD. |
|-----------------|--|
| Street Address: | NO. 10 JIUXIANQIAO RD., CHAOYANG DISTRICT |
| City: | BEIJING |
| State/Country: | CHINA |
| Postal Code: | 100015 |
| Name: | BEIJING BOE OPTOELECTRONICS TECHNOLOGY CO., LTD. |
| Street Address: | NO. 8 XIHUANZHONGLU, BDA |
| City: | BEIJING |
| State/Country: | CHINA |
| Postal Code: | 100176 |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 15568429 |

CORRESPONDENCE DATA

Fax Number:

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.

Email: asuazo@nathlaw.com

PATENT REEL: 043930 FRAME: 0906

Correspondent Name: NATH, GOLDBERG & MEYER

Address Line 1: 112 S. WEST ST. Address Line 2: 35414U_JBG/ALS

Address Line 4: ALEXANDRIA, VIRGINIA 22314

| ATTORNEY DOCKET NUMBER: 35414U | |
|--------------------------------|--|
| NAME OF SUBMITTER: | JOSHUA B. GOLDBERG |
| SIGNATURE: | /Joshua B. Goldberg/ |
| DATE SIGNED: | 10/21/2017 |
| | This document serves as an Oath/Declaration (37 CFR 1.63). |

source=DEC_SCAN#page1.tif
source=DEC_SCAN#page2.tif
source=DEC_SCAN#page3.tif
source=DEC_SCAN#page4.tif
source=DEC_SCAN#page5.tif
source=DEC_SCAN#page6.tif
source=DEC_SCAN#page7.tif
source=DEC_SCAN#page8.tif
source=DEC_SCAN#page9.tif
source=DEC_SCAN#page10.tif
source=DEC_SCAN#page11.tif
source=DEC_SCAN#page11.tif
source=DEC_SCAN#page12.tif
source=DEC_SCAN#page13.tif
source=DEC_SCAN#page14.tif

Total Attachments: 20

source=DEC_SCAN#page15.tif source=DEC_SCAN#page16.tif source=DEC_SCAN#page17.tif source=DEC_SCAN#page18.tif source=DEC_SCAN#page19.tif

source=DEC_SCAN#page20.tif

PATENT REEL: 043930 FRAME: 0907

| Title of Invention | |
|---|--|
| As a below | v named inventor, I hereby declare that: |
| This decla | ration |
| is directed | The attached application, or |
| | United States application or PCT international application number filed on identified application was made or authorized to be made by me. |
| The above- | Identified application was made or authorized to be made by me. |
| I believe the | at I am the original inventor or an original joint inventor of a claimed invention cation. |
| I hereby ac punishable years, or bo | knowledge that any willful false statement made in this declaration is under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) oth. |

FOR GOOD AND VALUABLE CONSIDERATION, the receipt, sufficiency and adequacy of which are hereby acknowledged, each undersigned inventor (hereinafter referred to as "ASSIGNOR"), do hereby:

SELL, ASSIGN AND TRANSFER to BOE TECHNOLOGY GROUP CO., LTD., having a place of business at No. 10 Jiuxianqiao Rd., Chaoyang District, Beijing 100015, China and BEIJING BOE OPTOELECTRONICS TECHNOLOGY CO., LTD., having a place of business at No. 8 Xihuanzhonglu, BDA, Beijing 100176, China (each hereinafter referred to as "ASSIGNEE"), the entire right, title and interest for the United States and all foreign countries in and to any and all inventions which are disclosed in the above-identified application for United States Letters Patent, which has been executed by the undersigned concurrently herewith, which claims priority to PCT/CN2017/081043 filed on April 19, 2017; which in turn claims priority to CN 201610334414.7 filed on May 19, 2016; such applications and all divisional, continuing, substitute, renewal, reissue and all other applications for patent which have been or shall be filed in the United States and all foreign countries on any of such inventions; all original and reissued patents which have been or shall be issued in the United States and all foreign countries on such inventions; and specifically including the right to file foreign applications under the provisions of any convention or treaty and claim priority based on such application in the United States;

AUTHORIZE AND REQUEST the issuing authority to issue any and all United States and foreign patents granted on such inventions to the Assignee;

COVENANT, when requested and at the expense of the Assignee, to carry out in good faith the intent and purpose of this assignment, the undersigned will execute all divisional, continuing, substitute, renewal, reissue, and all other patent applications on any and all such inventions; execute all rightful oaths, declarations, assignments, powers of attorney and other papers; communicate to the Assignee all facts known to the undersigned relating to such inventions and the history thereof; and generally do everything possible which the Assignee shall consider desirable for vesting title to such inventions in the Assignee, and for securing, maintaining and enforcing proper patent protection for such inventions;

TO BE BINDING on the heirs; assigns, representatives and successors of the undersigned and extend to the successors, assigns and nominees of the Assignee.

ASSIGNOR HEREBY REPRESENTS AND WARRANTS that ASSIGNOR has the full and unencumbered right to sell, assign, and transfer the interests sold, assigned, and transferred herein, and that ASSIGNOR has not executed and will not execute any document or instrument in conflict herewith.

ASSIGNOR HEREBY GRANTS to the agents and attorneys of NATH, GOLDBERG & MEYER, Customer No. 20529 the power and authority to insert in this Assignment any further identification which may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office for recordation of this Assignment.

The assignment of said invention is effective as of the earlier of (1) the date of execution shown below or (2) the filing date of the first filed of said patent applications.

STATEMENTS

I have reviewed and understand the contents of the above-identified application, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose to the United States Patent Office all information known to me to be material to patentability as defined in 37 C.F.R. 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part.

| LEGAL NAME OF INVENTOR | |
|--------------------------|--------------------|
| | Date: SEP, 08,2017 |
| Inventor: Xiaochen NIU | Date |
| Signature: X'zaochen NIU | |
| | |

| Title of Invention | |
|--------------------------------|--|
| As a below | v named inventor, I hereby declare that: |
| This decla | ration |
| is directed | ₩ The attached application or |
| | United States application or PCT international application number |
| The above- | identified application was made or authorized to be made by me. |
| l believe tha in the applic | at I am the original inventor or an original joint inventor of a claimed invention cation. |
| | knowledge that any willful false statement made in this declaration is under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) oth. |

FOR GOOD AND VALUABLE CONSIDERATION, the receipt, sufficiency and adequacy of which are hereby acknowledged, each undersigned inventor (hereinafter referred to as "ASSIGNOR"), do hereby:

SELL, ASSIGN AND TRANSFER to BOE TECHNOLOGY GROUP CO., LTD., having a place of business at No. 10 Jiuxianqiao Rd., Chaoyang District, Beijing 100015, China_, and BEIJING BOE OPTOELECTRONICS TECHNOLOGY CO., LTD., having a place of business at No. 8 Xihuanzhonglu, BDA, Beijing 100176, China (each hereinafter referred to as "ASSIGNEE"), the entire right, title and interest for the United States and all foreign countries in and to any and all inventions which are disclosed in the above-identified application for United States Letters Patent, which has been executed by the undersigned concurrently herewith, which claims priority to PCT/CN2017/081043 filed on April 19, 2017; which in turn claims priority to CN 201610334414.7 filed on May 19, 2016; such applications and all divisional, continuing, substitute, renewal, reissue and all other applications for patent which have been or shall be filed in the United States and all foreign countries on any of such inventions; all original and reissued patents which have been or shall be issued in the United States and all foreign countries on such inventions; and specifically including the right to file foreign applications under the provisions of any convention or treaty and claim priority based on such application in the United States;

AUTHORIZE AND REQUEST the issuing authority to issue any and all United States and foreign patents granted on such inventions to the Assignee;

1

PATENT REEL: 043930 FRAME: 0910

COVENANT, when requested and at the expense of the Assignee, to carry out in good faith the intent and purpose of this assignment, the undersigned will execute all divisional, continuing, substitute, renewal, reissue, and all other patent applications on any and all such inventions; execute all rightful oaths, declarations, assignments, powers of attorney and other papers; communicate to the Assignee all facts known to the undersigned relating to such inventions and the history thereof; and generally do everything possible which the Assignee shall consider desirable for vesting title to such inventions in the Assignee, and for securing, maintaining and enforcing proper patent protection for such inventions;

TO BE BINDING on the heirs; assigns, representatives and successors of the undersigned and extend to the successors, assigns and nominees of the Assignee.

ASSIGNOR HEREBY REPRESENTS AND WARRANTS that ASSIGNOR has the full and unencumbered right to sell, assign, and transfer the interests sold, assigned, and transferred herein, and that ASSIGNOR has not executed and will not execute any document or instrument in conflict herewith.

ASSIGNOR HEREBY GRANTS to the agents and attorneys of NATH, GOLDBERG & MEYER, Customer No. 20529 the power and authority to insert in this Assignment any further identification which may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office for recordation of this Assignment.

The assignment of said invention is effective as of the earlier of (1) the date of execution shown below or (2) the filing date of the first filed of said patent applications.

STATEMENTS

I have reviewed and understand the contents of the above-identified application, including the claims, as amended by any amendment referred to above.

| LEGAL NAME OF INVENTOR | |
|------------------------|---------------------|
| Inventor: Xue DONG | Date: SEP. 08, 2017 |
| Signature: XUE DONG | |

| Title of Invention | |
|---|--|
| As a below | named inventor, I hereby declare that: |
| This decla | ration |
| is directed | to: |
| | United States application or PCT international application number |
| The above- | identified application was made or authorized to be made by me. |
| I believe that in the applic | at I am the original inventor or an original joint inventor of a claimed invention cation. |
| I hereby ac punishable years, or bo | knowledge that any willful false statement made in this declaration is under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) oth. |

FOR GOOD AND VALUABLE CONSIDERATION, the receipt, sufficiency and adequacy of which are hereby acknowledged, each undersigned inventor (hereinafter referred to as "ASSIGNOR"), do hereby:

SELL, ASSIGN AND TRANSFER to BOE TECHNOLOGY GROUP CO., LTD., having a place of business at No. 10 Jiuxianqiao Rd., Chaoyang District, Beijing 100015, China and BEIJING BOE OPTOELECTRONICS TECHNOLOGY CO., LTD., having a place of business at No. 8 Xihuanzhonglu, BDA, Beijing 100176. China (each hereinafter referred to as "ASSIGNEE"), the entire right, title and interest for the United States and all foreign countries in and to any and all inventions which are disclosed in the above-identified application for United States Letters Patent, which has been executed by the undersigned concurrently herewith, which claims priority to PCT/CN2017/081043 filed on April 19, 2017; which in turn claims priority to CN 201610334414.7 filed on May 19, 2016; such applications and all divisional, continuing, substitute, renewal, reissue and all other applications for patent which have been or shall be filed in the United States and all foreign countries on any of such inventions; all original and reissued patents which have been or shall be issued in the United States and all foreign countries on such inventions; and specifically including the right to file foreign applications under the provisions of any convention or treaty and claim priority based on such application in the United States;

AUTHORIZE AND REQUEST the issuing authority to issue any and all United States and foreign patents granted on such inventions to the Assignee;

1

PATENT REEL: 043930 FRAME: 0912

COVENANT, when requested and at the expense of the Assignee, to carry out in good faith the intent and purpose of this assignment, the undersigned will execute all divisional, continuing, substitute, renewal, reissue, and all other patent applications on any and all such inventions; execute all rightful oaths, declarations, assignments, powers of attorney and other papers; communicate to the Assignee all facts known to the undersigned relating to such inventions and the history thereof; and generally do everything possible which the Assignee shall consider desirable for vesting title to such inventions in the Assignee, and for securing, maintaining and enforcing proper patent protection for such inventions;

TO BE BINDING on the heirs; assigns, representatives and successors of the undersigned and extend to the successors, assigns and nominees of the Assignee.

ASSIGNOR HEREBY REPRESENTS AND WARRANTS that ASSIGNOR has the full and unencumbered right to sell, assign, and transfer the interests sold, assigned, and transferred herein, and that ASSIGNOR has not executed and will not execute any document or instrument in conflict herewith.

ASSIGNOR HEREBY GRANTS to the agents and attorneys of NATH, GOLDBERG & MEYER, Customer No. 20529 the power and authority to insert in this Assignment any further identification which may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office for recordation of this Assignment.

The assignment of said invention is effective as of the earlier of (1) the date of execution shown below or (2) the filing date of the first filed of said patent applications.

STATEMENTS

I have reviewed and understand the contents of the above-identified application, including the claims, as amended by any amendment referred to above.

| LEGAL NAME OF INVENTOR | |
|----------------------------|---------------------|
| Inventor: Xiaochuan CHEN | Date: SEP, 08, 2017 |
| Signature: X'240Ch447 CHEN | |

| Title of Invention | |
|---|--|
| As a below | v named inventor, I hereby declare that: |
| This decla | ration |
| is directed | ☐ The attached application, or |
| | United States application or PCT international application number filed on |
| The above- | identified application was made or authorized to be made by me. |
| I believe that in the applic | at I am the original inventor or an original joint inventor of a claimed invention cation. |
| I hereby ac punishable years, or bo | knowledge that any willful false statement made in this declaration is under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) oth. |

FOR GOOD AND VALUABLE CONSIDERATION, the receipt, sufficiency and adequacy of which are hereby acknowledged, each undersigned inventor (hereinafter referred to as "ASSIGNOR"), do hereby:

SELL, ASSIGN AND TRANSFER to BOE TECHNOLOGY GROUP CO., LTD., having a place of business at No. 10 Jiuxianqiao Rd., Chaoyang District, Beijing 100015, China and BEIJING BOE OPTOELECTRONICS TECHNOLOGY CO., LTD., having a place of business at No. 8 Xihuanzhonglu, BDA, Beijing 100176, China (each hereinafter referred to as "ASSIGNEE"), the entire right, title and interest for the United States and all foreign countries in and to any and all inventions which are disclosed in the above-identified application for United States Letters Patent, which has been executed by the undersigned concurrently herewith, which claims priority to PCT/CN2017/081043 filed on April 19, 2017; which in turn claims priority to CN 201610334414.7 filed on May 19, 2016; such applications and all divisional, continuing, substitute, renewal, reissue and all other applications for patent which have been or shall be filed in the United States and all foreign countries on any of such inventions; all original and reissued patents which have been or shall be issued in the United States and all foreign countries on such inventions; and specifically including the right to file foreign applications under the provisions of any convention or treaty and claim priority based on such application in the United States;

AUTHORIZE AND REQUEST the issuing authority to issue any and all United States and foreign patents granted on such inventions to the Assignee;

COVENANT, when requested and at the expense of the Assignee, to carry out in good faith the intent and purpose of this assignment, the undersigned will execute all divisional, continuing, substitute, renewal, reissue, and all other patent applications on any and all such inventions; execute all rightful oaths, declarations, assignments, powers of attorney and other papers; communicate to the Assignee all facts known to the undersigned relating to such inventions and the history thereof; and generally do everything possible which the Assignee shall consider desirable for vesting title to such inventions in the Assignee, and for securing, maintaining and enforcing proper patent protection for such inventions;

TO BE BINDING on the heirs; assigns, representatives and successors of the undersigned and extend to the successors, assigns and nominees of the Assignee.

ASSIGNOR HEREBY REPRESENTS AND WARRANTS that ASSIGNOR has the full and unencumbered right to sell, assign, and transfer the interests sold, assigned, and transferred herein, and that ASSIGNOR has not executed and will not execute any document or instrument in conflict herewith.

ASSIGNOR HEREBY GRANTS to the agents and attorneys of NATH, GOLDBERG & MEYER, Customer No. 20529 the power and authority to insert in this Assignment any further identification which may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office for recordation of this Assignment.

The assignment of said invention is effective as of the earlier of (1) the date of execution shown below or (2) the filing date of the first filed of said patent applications.

STATEMENTS

I have reviewed and understand the contents of the above-identified application, including the claims, as amended by any amendment referred to above.

| LEGAL NAME OF INVENTOR | |
|-------------------------|------------------------|
| Inventor: Wenging ZHAO | Date: SEP.07, 2017 |
| Signature: Wenging ZHAO | |
| | Inventor: Wenging ZHAO |

| Title of Invention | |
|--|--|
| As a belov | v named inventor, I hereby declare that: |
| This decla | ration |
| is directed | ☑ The attached application, or |
| | United States application or PCT international application number |
| The above- | identified application was made or authorized to be made by me. |
| | at I am the original inventor or an original joint inventor of a claimed invention |
| I hereby ac punishable years, or b | knowledge that any willful false statement made in this declaration is under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) oth. |

FOR GOOD AND VALUABLE CONSIDERATION, the receipt, sufficiency and adequacy of which are hereby acknowledged, each undersigned inventor (hereinafter referred to as "ASSIGNOR"), do hereby:

SELL, ASSIGN AND TRANSFER to BOE TECHNOLOGY GROUP CO., LTD. , having a place of business at No. 10 Jiuxianqiao Rd., Chaoyang District, Beijing 100015, China and BEIJING BOE OPTOELECTRONICS TECHNOLOGY CO., LTD., having a place of business at No. 8 Xihuanzhonglu, BDA, Beijing 100176, China (each hereinafter referred to as "ASSIGNEE"), the entire right, title and interest for the United States and all foreign countries in and to any and all inventions which are disclosed in the above-identified application for United States Letters Patent, which has been executed by the undersigned concurrently herewith, which claims priority to PCT/CN2017/081043 filed on April 19, 2017; which in turn claims priority to CN 201610334414.7 filed on May 19, 2016; such applications and all divisional, continuing, substitute, renewal, reissue and all other applications for patent which have been or shall be filed in the United States and all foreign countries on any of such inventions; all original and reissued patents which have been or shall be issued in the United States and all foreign countries on such inventions; and specifically including the right to file foreign applications under the provisions of any convention or treaty and claim priority based on such application in the United States;

AUTHORIZE AND REQUEST the issuing authority to issue any and all United States and foreign patents granted on such inventions to the Assignee;

COVENANT, when requested and at the expense of the Assignee, to carry out in good faith the intent and purpose of this assignment, the undersigned will execute all divisional, continuing, substitute, renewal, reissue, and all other patent applications on any and all such inventions; execute all rightful oaths, declarations, assignments, powers of attorney and other papers; communicate to the Assignee all facts known to the undersigned relating to such inventions and the history thereof; and generally do everything possible which the Assignee shall consider desirable for vesting title to such inventions in the Assignee, and for securing, maintaining and enforcing proper patent protection for such inventions;

TO BE BINDING on the heirs; assigns, representatives and successors of the undersigned and extend to the successors, assigns and nominees of the Assignee.

ASSIGNOR HEREBY REPRESENTS AND WARRANTS that ASSIGNOR has the full and unencumbered right to sell, assign, and transfer the interests sold, assigned, and transferred herein, and that ASSIGNOR has not executed and will not execute any document or instrument in conflict herewith.

ASSIGNOR HEREBY GRANTS to the agents and attorneys of NATH, GOLDBERG & MEYER, Customer No. 20529 the power and authority to insert in this Assignment any further identification which may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office for recordation of this Assignment.

The assignment of said invention is effective as of the earlier of (1) the date of execution shown below or (2) the filing date of the first filed of said patent applications.

STATEMENTS

I have reviewed and understand the contents of the above-identified application, including the claims, as amended by any amendment referred to above.

| LEGAL NAME OF INVENTOR | |
|------------------------|---------------------|
| Inventor: Ming YANG | Date: SEP, 08, 2017 |
| Signature: Ming YANG | |

| Title of Invention | |
|---|--|
| As a below | named inventor, I hereby declare that: |
| This decla | ration |
| is directed | to: $ abla$ The attached application, or |
| | United States application or PCT international application number filed on |
| The above- | identified application was made or authorized to be made by me. |
| I believe tha in the applic | at I am the original inventor or an original joint inventor of a claimed invention cation. |
| I hereby ac punishable years, or bo | knowledge that any willful false statement made in this declaration is under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) oth. |

FOR GOOD AND VALUABLE CONSIDERATION, the receipt, sufficiency and adequacy of which are hereby acknowledged, each undersigned inventor (hereinafter referred to as "ASSIGNOR"), do hereby:

SELL, ASSIGN AND TRANSFER to BOE TECHNOLOGY GROUP CO., LTD., having a place of business at No. 10 Jiuxianqiao Rd., Chaoyang District, Beijing 100015, China and BEIJING BOE OPTOELECTRONICS TECHNOLOGY CO., LTD., having a place of business at No. 8 Xihuanzhonglu, BDA, Beijing 100176, China (each hereinafter referred to as "ASSIGNEE"), the entire right, title and interest for the United States and all foreign countries in and to any and all inventions which are disclosed in the above-identified application for United States Letters Patent, which has been executed by the undersigned concurrently herewith, which claims priority to PCT/CN2017/081043 filed on April 19, 2017; which in turn claims priority to CN 201610334414.7 filed on May 19, 2016; such applications and all divisional, continuing, substitute, renewal, reissue and all other applications for patent which have been or shall be filed in the United States and all foreign countries on any of such inventions; all original and reissued patents which have been or shall be issued in the United States and all foreign countries on such inventions; and specifically including the right to file foreign applications under the provisions of any convention or treaty and claim priority based on such application in the United States;

AUTHORIZE AND REQUEST the issuing authority to issue any and all United States and foreign patents granted on such inventions to the Assignee;

COVENANT, when requested and at the expense of the Assignee, to carry out in good faith the intent and purpose of this assignment, the undersigned will execute all divisional, continuing, substitute, renewal, reissue, and all other patent applications on any and all such inventions; execute all rightful oaths, declarations, assignments, powers of attorney and other papers; communicate to the Assignee all facts known to the undersigned relating to such inventions and the history thereof; and generally do everything possible which the Assignee shall consider desirable for vesting title to such inventions in the Assignee, and for securing, maintaining and enforcing proper patent protection for such inventions;

TO BE BINDING on the heirs; assigns, representatives and successors of the undersigned and extend to the successors, assigns and nominees of the Assignee.

ASSIGNOR HEREBY REPRESENTS AND WARRANTS that ASSIGNOR has the full and unencumbered right to sell, assign, and transfer the interests sold, assigned, and transferred herein, and that ASSIGNOR has not executed and will not execute any document or instrument in conflict herewith.

ASSIGNOR HEREBY GRANTS to the agents and attorneys of NATH, GOLDBERG & MEYER, Customer No. 20529 the power and authority to insert in this Assignment any further identification which may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office for recordation of this Assignment.

The assignment of said invention is effective as of the earlier of (1) the date of execution shown below or (2) the filing date of the first filed of said patent applications.

STATEMENTS

I have reviewed and understand the contents of the above-identified application, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose to the United States Patent Office all information known to me to be material to patentability as defined in 37 C.F.R. 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part.

| LEGAL NAME OF INVENTOR | |
|------------------------------|-------------------|
| Inventor: Qian WANG | Date: SEP.08,2017 |
| Signature: <u>Q</u> tan WANG | |

| Title of Invention | |
|--|--|
| As a below | named inventor, I hereby declare that: |
| This decla | to: The attached application, or United States application or PCT international application filed on |
| The above- | identified application was made or authorized to be made by me. |
| Į. | at I am the original inventor or an original joint inventor of a claimed invention |
| I hereby ac punishable years, or b | knowledge that any willful false statement made in this declaration is under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) oth. |
| 1 | |

FOR GOOD AND VALUABLE CONSIDERATION, the receipt, sufficiency and adequacy of which are hereby acknowledged, each undersigned inventor (hereinafter referred to as "ASSIGNOR"), do hereby:

SELL, ASSIGN AND TRANSFER to BOE TECHNOLOGY GROUP CO., LTD., having a place of business at No. 10 Juxianqiao Rd., Chaoyang District, Beijing 100015, China and BEIJING BOE OPTOELECTRONICS TECHNOLOGY CO., LTD., having a place of business at No. 8 Xihuanzhonglu, BDA, Beijing 100176, China (each hereinafter referred to as "ASSIGNEE"), the entire right, title and interest for the United States and all foreign countries in and to any and all inventions which are disclosed in the above-identified application for United States Letters Patent, which has been executed by the undersigned concurrently herewith, which claims priority to PCT/CN2017/081043 filed on April 19, 2017; which in turn claims priority to CN 201610334414.7 filed on May 19, 2016; such applications and all divisional, continuing, substitute, renewal, reissue and all other applications for patent which have been or shall be filed in the United States and all foreign countries on any of such inventions; all original and reissued patents which have been or shall be issued in the United States and all foreign countries on such inventions; and specifically including the right to file foreign applications under the provisions of any convention or treaty and claim priority based on such application in the United States;

AUTHORIZE AND REQUEST the issuing authority to issue any and all United States and foreign patents granted on such inventions to the Assignee;

COVENANT, when requested and at the expense of the Assignee, to carry out in good faith the intent and purpose of this assignment, the undersigned will execute all divisional, continuing, substitute, renewal, reissue, and all other patent applications on any and all such inventions; execute all rightful oaths, declarations, assignments, powers of attorney and other papers; communicate to the Assignee all facts known to the undersigned relating to such inventions and the history thereof; and generally do everything possible which the Assignee shall consider desirable for vesting title to such inventions in the Assignee, and for securing, maintaining and enforcing proper patent protection for such inventions;

TO BE BINDING on the heirs; assigns, representatives and successors of the undersigned and extend to the successors, assigns and nominees of the Assignee.

ASSIGNOR HEREBY REPRESENTS AND WARRANTS that ASSIGNOR has the full and unencumbered right to sell, assign, and transfer the interests sold, assigned, and transferred herein, and that ASSIGNOR has not executed and will not execute any document or instrument in conflict herewith.

ASSIGNOR HEREBY GRANTS to the agents and attorneys of NATH, GOLDBERG & MEYER, Customer No. 20529 the power and authority to insert in this Assignment any further identification which may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office for recordation of this Assignment.

The assignment of said invention is effective as of the earlier of (1) the date of execution shown below or (2) the filing date of the first filed of said patent applications.

STATEMENTS

I have reviewed and understand the contents of the above-identified application, including the claims, as amended by any amendment referred to above.

| LE | GAL NAME OF INVENTOR | 2 0 5 |
|-----|----------------------|---------------------------|
| Inv | entor: Pengcheng LU | Date: <u>Sep. 8, 201)</u> |
| Sig | nature: Pengcheng LL | V |

| Title of Invention | |
|---|--|
| As a below | v named inventor, I hereby declare that: |
| This decla | ration |
| is directed | to: |
| | United States application or PCT international application numberfiled on |
| The above- | identified application was made or authorized to be made by me. |
| I believe the | at I am the original inventor or an original joint inventor of a claimed invention cation. |
| I hereby ac punishable years, or bo | knowledge that any willful false statement made in this declaration is under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) oth. |

FOR GOOD AND VALUABLE CONSIDERATION, the receipt, sufficiency and adequacy of which are hereby acknowledged, each undersigned inventor (hereinafter referred to as "ASSIGNOR"), do hereby:

SELL, ASSIGN AND TRANSFER to BOE TECHNOLOGY GROUP CO., LTD. , having a place of business at No. 10 Jiuxianqiao Rd., Chaoyang District, Beijing 100015, China and BEIJING BOE OPTOELECTRONICS TECHNOLOGY CO., LTD., having a place of business at No. 8 Xihuanzhonglu, BDA, Beijing 100176, China (each hereinafter referred to as "ASSIGNEE"), the entire right, title and interest for the United States and all foreign countries in and to any and all inventions which are disclosed in the above-identified application for United States Letters Patent, which has been executed by the undersigned concurrently herewith, which claims priority to PCT/CN2017/081043 filed on April 19, 2017; which in turn claims priority to CN 201610334414.7 filed on May 19, 2016; such applications and all divisional, continuing, substitute, renewal, reissue and all other applications for patent which have been or shall be filed in the United States and all foreign countries on any of such inventions; all original and reissued patents which have been or shall be issued in the United States and all foreign countries on such inventions; and specifically including the right to file foreign applications under the provisions of any convention or treaty and claim priority based on such application in the United States;

AUTHORIZE AND REQUEST the issuing authority to issue any and all United States and foreign patents granted on such inventions to the Assignee;

COVENANT, when requested and at the expense of the Assignee, to carry out in good faith the intent and purpose of this assignment, the undersigned will execute all divisional, continuing, substitute, renewal, reissue, and all other patent applications on any and all such inventions; execute all rightful oaths, declarations, assignments, powers of attorney and other papers; communicate to the Assignee all facts known to the undersigned relating to such inventions and the history thereof; and generally do everything possible which the Assignee shall consider desirable for vesting title to such inventions in the Assignee, and for securing, maintaining and enforcing proper patent protection for such inventions;

TO BE BINDING on the heirs; assigns, representatives and successors of the undersigned and extend to the successors, assigns and nominees of the Assignee.

ASSIGNOR HEREBY REPRESENTS AND WARRANTS that ASSIGNOR has the full and unencumbered right to sell, assign, and transfer the interests sold, assigned, and transferred herein, and that ASSIGNOR has not executed and will not execute any document or instrument in conflict herewith.

ASSIGNOR HEREBY GRANTS to the agents and attorneys of NATH, GOLDBERG & MEYER, Customer No. 20529 the power and authority to insert in this Assignment any further identification which may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office for recordation of this Assignment.

The assignment of said invention is effective as of the earlier of (1) the date of execution shown below or (2) the filing date of the first filed of said patent applications.

STATEMENTS

I have reviewed and understand the contents of the above-identified application, including the claims, as amended by any amendment referred to above.

| LEGAL NAME OF INVENTOR | |
|------------------------|-------------------|
| Inventor: Jian GAO | Date: SEP.08,2017 |
| Signature: JLAN GAO | |

| Title of Invention | |
|---|--|
| As a below | v named inventor, I hereby declare that: |
| This decla | nration |
| is directed | ☐ The attached application, or |
| | United States application or PCT international application number |
| The above- | identified application was made or authorized to be made by me. |
| I believe that in the applic | at I am the original inventor or an original joint inventor of a claimed invention cation. |
| I hereby ac punishable years, or bo | knowledge that any willful false statement made in this declaration is under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) oth. |

FOR GOOD AND VALUABLE CONSIDERATION, the receipt, sufficiency and adequacy of which are hereby acknowledged, each undersigned inventor (hereinafter referred to as "ASSIGNOR"), do hereby:

SELL, ASSIGN AND TRANSFER to BOE TECHNOLOGY GROUP CO., LTD., having a place of business at No. 10 Jiuxianqiao Rd., Chaoyang District, Beijing 100015, China and BEIJING BOE OPTOELECTRONICS TECHNOLOGY CO., LTD., having a place of business at No. 8 Xihuanzhonglu, BDA, Beijing 100176, China (each hereinafter referred to as "ASSIGNEE"), the entire right, title and interest for the United States and all foreign countries in and to any and all inventions which are disclosed in the above-identified application for United States Letters Patent, which has been executed by the undersigned concurrently herewith, which claims priority to PCT/CN2017/081043 filed on April 19, 2017; which in turn claims priority to CN 201610334414.7 filed on May 19, 2016; such applications and all divisional, continuing, substitute, renewal, reissue and all other applications for patent which have been or shall be filed in the United States and all foreign countries on any of such inventions; all original and reissued patents which have been or shall be issued in the United States and all foreign countries on such inventions; and specifically including the right to file foreign applications under the provisions of any convention or treaty and claim priority based on such application in the United States;

AUTHORIZE AND REQUEST the issuing authority to issue any and all United States and foreign patents granted on such inventions to the Assignee;

COVENANT, when requested and at the expense of the Assignee, to carry out in good faith the intent and purpose of this assignment, the undersigned will execute all divisional, continuing, substitute, renewal, reissue, and all other patent applications on any and all such inventions; execute all rightful oaths, declarations, assignments, powers of attorney and other papers; communicate to the Assignee all facts known to the undersigned relating to such inventions and the history thereof; and generally do everything possible which the Assignee shall consider desirable for vesting title to such inventions in the Assignee, and for securing, maintaining and enforcing proper patent protection for such inventions;

TO BE BINDING on the heirs; assigns, representatives and successors of the undersigned and extend to the successors, assigns and nominees of the Assignee.

ASSIGNOR HEREBY REPRESENTS AND WARRANTS that ASSIGNOR has the full and unencumbered right to sell, assign, and transfer the interests sold, assigned, and transferred herein, and that ASSIGNOR has not executed and will not execute any document or instrument in conflict herewith.

ASSIGNOR HEREBY GRANTS to the agents and attorneys of NATH, GOLDBERG & MEYER, Customer No. 20529 the power and authority to insert in this Assignment any further identification which may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office for recordation of this Assignment.

The assignment of said invention is effective as of the earlier of (1) the date of execution shown below or (2) the filing date of the first filed of said patent applications.

STATEMENTS

I have reviewed and understand the contents of the above-identified application, including the claims, as amended by any amendment referred to above.

| LEGAL NAME OF INVENTOR | A > 0 |
|------------------------|-------------------|
| Inventor: Lei WANG | Date: SEP.08,201) |
| Signature: Le'z WANG | |

| Title of Invention | |
|---------------------------------|--|
| As a below | v named inventor, I hereby declare that: |
| This decla | ration |
| is directed | to: ▼ The attached application, or |
| | [!] United States application or PCT international application number |
| The above- | identified application was made or authorized to be made by me. |
| I believe that in the applic | at I am the original inventor or an original joint inventor of a claimed invention cation. |
| | knowledge that any willful false statement made in this declaration is under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) oth. |

FOR GOOD AND VALUABLE CONSIDERATION, the receipt, sufficiency and adequacy of which are hereby acknowledged, each undersigned inventor (hereinafter referred to as "ASSIGNOR"), do hereby:

SELL, ASSIGN AND TRANSFER to BOE TECHNOLOGY GROUP CO., LTD., having a place of business at No. 10 Jiuxianqiao Rd., Chaoyang District, Beijing 100015, China and BEIJING BOE OPTOELECTRONICS TECHNOLOGY CO., LTD., having a place of business at No. 8 Xihuanzhonglu, BDA, Beijing 100176, China (each hereinafter referred to as "ASSIGNEE"), the entire right, title and interest for the United States and all foreign countries in and to any and all inventions which are disclosed in the above-identified application for United States Letters Patent, which has been executed by the undersigned concurrently herewith, which claims priority to PCT/CN2017/081043 filed on April 19, 2017; which in turn claims priority to CN 201610334414.7 filed on May 19, 2016; such applications and all divisional, continuing, substitute, renewal, reissue and all other applications for patent which have been or shall be filed in the United States and all foreign countries on any of such inventions; all original and reissued patents which have been or shall be issued in the United States and all foreign countries on such inventions; and specifically including the right to file foreign applications under the provisions of any convention or treaty and claim priority based on such application in the United States;

AUTHORIZE AND REQUEST the issuing authority to issue any and all United States and foreign patents granted on such inventions to the Assignee;

COVENANT, when requested and at the expense of the Assignee, to carry out in good faith the intent and purpose of this assignment, the undersigned will execute all divisional, continuing, substitute, renewal, reissue, and all other patent applications on any and all such inventions; execute all rightful oaths, declarations, assignments, powers of attorney and other papers; communicate to the Assignee all facts known to the undersigned relating to such inventions and the history thereof; and generally do everything possible which the Assignee shall consider desirable for vesting title to such inventions in the Assignee, and for securing, maintaining and enforcing proper patent protection for such inventions;

TO BE BINDING on the heirs; assigns, representatives and successors of the undersigned and extend to the successors, assigns and nominees of the Assignee.

ASSIGNOR HEREBY REPRESENTS AND WARRANTS that ASSIGNOR has the full and unencumbered right to sell, assign, and transfer the interests sold, assigned, and transferred herein, and that ASSIGNOR has not executed and will not execute any document or instrument in conflict herewith.

ASSIGNOR HEREBY GRANTS to the agents and attorneys of NATH, GOLDBERG & MEYER, Customer No. 20529 the power and authority to insert in this Assignment any further identification which may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office for recordation of this Assignment.

The assignment of said invention is effective as of the earlier of (1) the date of execution shown below or (2) the filing date of the first filed of said patent applications.

STATEMENTS

I have reviewed and understand the contents of the above-identified application, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose to the United States Patent Office all information known to me to be material to patentability as defined in 37 C.F.R. 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part.

| LEGAL NAME OF INVENTOR | |
|------------------------|---------------------|
| Inventor: Rui XU | Date: SEP. 08, 201) |
| Signature: Ru\ XV | |
| Signature. 17977 179 | |

2

RECORDED: 10/24/2017