#### 504383750 05/25/2017

# PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4430446

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
MIAO ZHANG	04/28/2017
JINLIANG LIU	04/28/2017
MO CHEN	04/28/2017
JING SUN	04/28/2017
SONGMEI SUN	04/28/2017

#### **RECEIVING PARTY DATA**

Name:	BOE TECHNOLOGY GROUP CO., LTD.
Street Address:	NO. 10 JIUXIANQIAO ROAD, CHAOYANG DISTRICT
City:	BEIJING
State/Country:	CHINA
Postal Code:	100015
Name:	HEFEI XINSHENG OPTOELECTRONICS TECHNOLOGY CO., LTD.
Name: Street Address:	HEFEI XINSHENG OPTOELECTRONICS TECHNOLOGY CO., LTD. XINZHAN INDUSTRIAL PARK, HEFEI
	,
Street Address:	XINZHAN INDUSTRIAL PARK, HEFEI

#### **PROPERTY NUMBERS Total: 1**

Property Type	Number
Application Number:	15529559

#### **CORRESPONDENCE DATA**

**Fax Number:** (612)334-3312

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: 612-334-3222 Email: equetzko@wck.com **Correspondent Name:** JUDSON K. CHAMPLIN

900 SECOND AVENUE SOUTH Address Line 1:

Address Line 2: **SUITE 1400** 

Address Line 4: MINNEAPOLIS, MINNESOTA 55402

> **PATENT** REEL: 042504 FRAME: 0512

504383750

ATTORNEY DOCKET NUMBER:	B200.0431US1
NAME OF SUBMITTER:	JUDSON K. CHAMPLIN
SIGNATURE:	/Judson K. Champlin/
DATE SIGNED:	05/25/2017
Total Attachments: 10	
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Title of Invention	GATE DRIVING CIRCUIT AND METHOD FOR DETECTING SAME, ARRAY SUBSTRATE AND DISPLAY APPARATUS												
As a below n	As a below named inventor, I hereby declare that:												
	MThe attached application or												
I believe that application.	I am the original inventor or an original joint inventor of a claimed invention in the												
	nowledge that any willful false statement made in this declaration is punishable .C. 1001 by fine or imprisonment of not more than five (5) years, or both.												

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 Jiuxiangiao Rd., Chaoyang District, Beijing 100015, China and HEFEI XINSHENG OPTOELECTRONICS TECHNOLOGY CO., LTD., having a place of business at Xinzhan Industrial Park, Hefei, Anhui 230012 China, (hereafter 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/CN2016/088080 filed on 2016-07-01; which in turn claims priority to 201610136463.X filed on 2016-03-10; 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;

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COVENABLE, when requested and at the expense of the Assigned to carry out as good tasts the intent and purpose of this assignment, the undersigned will execute all divisional continuing, substitute renewal, reiscue, and all other patent applications on any and all such inventions execute all rightful onths declarations, assignments, powers of attorney and other papers, communicate to the Assignee all facts known to the understanded relating to such inventions and the history thereof, and generally decreased possible which the Assignee shall consider desirable for vesting title to such assertions to the Assignee, and for securing, maintaining and enforcing proper patent procedure for such assertions.

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

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

ASSIGNOR HEREBY GRANTS to the agents and attorneys of <u>Westman.</u>

Champlin & Kochler, P.A. the power and authority to insert in this Assignment and

further identification which may be necessary or destrable to comply with the rules of the

CS Pagent and Trademark Office for econdation of this Assignment.

The assignment of said invention is effective as of the earlier of (1) the date of  $\epsilon_{\rm Secution}$  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

According to the duty to disclose to the United States Patent Office all Information and the Control of the Con

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Title of Invention	GATE DRIVING CIRCUIT AND METHOD FOR DETECTING SAME, ARRAY SUBSTRATE AND DISPLAY APPARATUS													
As a below n	As a below named inventor, I hereby declare that:													
This declaration is directed to:  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 application.	I am the original inventor or an original joint inventor of a claimed invention in the													
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COVENANT, when requested and at the expense of the Assigned of Covenant and purpose of this assignment, the understance will execute all divisional continuing substitute renewal, reasons, and all other pagest applications are and all such inventions execute all rightful rates, accurations, assignment appears of alternative and other papers, communicate to the Assigned all facts known in the understance relating to such inventions and the history thereof, and generally decrepting possible which the Assigned shall consider describle for resume title to act the protection for such inventions.

TO BE BINDING on the new accessors representatives and successors in the production of the Assertation of th

ASSIGNOR HEREBY REPRESENTS AND WARRANTS and ASSIGNOR has the full and unencumbered right to self-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.

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The assignment of earl 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 earl parent applications

#### STATEMENTS

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

Lacknowledge the duty to disclose to the United States Patent Office all information become to the material to parentability 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.

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Title of Invention	GATE DRIVING CIRCUIT AND METHOD FOR DETECTING SAME, ARRAY SUBSTRATE AND DISPLAY APPARATUS													
As a below n	As a below named inventor, I hereby declare that:													
This declaration is directed to:  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 application.	I am the original inventor or an original joint inventor of a claimed invention in the													
	nowledge that any willful false statement made in this declaration is punishable s.C. 1001 by fine or imprisonment of not more than five (5) years, or both.													

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 Jiuxiangiao Rd., Chaoyang District, Beijing 100015, China and HEFEI XINSHENG OPTOELECTRONICS TECHNOLOGY CO., LTD., having a place of business at Xinzhan Industrial Park, Hefei, Anhui 230012 China, (hereafter 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/CN2016/088080 filed on 2016-07-01; which in turn claims priority to 201610136463.X filed on 2016-03-10; 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;

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VARRANT AND COVENANT that no assignment, grant, mortgage, license or other agreement affecting the rights and property began conveyed has been or will be made to others by the undersigned, and that the full right to convey the same as never expressed is possessed by the undersigned.

OVENANT, when requested and at the expense of the Assigner, in carry out in specification that ment and purpose of this assignment, the undersigned will execute all twistonial continuous, substitute, renewal, revisite, and all other patent applications as a unit all such inventions, execute all rightful outlis, declarations, assignment, process distributed and other papers, communicate to the Assignee all facts known to the industributed causes and entering the assignment and entering the security distributed possible which the Assignee shall consider desirable for visiting the paper patent processing in the Assignee, and for securing maintaining and entorcing proper patent processing in the Assignee.

TO BE BINDING on the horse assign, representatives and successors of the understand and extend to the successors assums and nonnees of the Assigner

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 <u>Westman.</u>

Champlin & Kochler, P.A. the power and authority to insert in this Assignment any further demitication 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 earlier of (2) the date of earlier of the first filed of said patent applications.

### STATEMENTS

I have reviewed and understand the contents of the above-identified application, treated to above.

I scan extedge the duty to disclose to the United States Patent Office all information knows 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 sational and the national or PCT international filing date of the sational and the national or PCT international filing date of the sational and the national or PCT international filing date of the sational and the national or PCT international filing date of the sational and the national or PCT international filing date of the sational and the national or PCT international filing date of the sational and the national or PCT international filing date of the sational and the national or PCT international filing date of the sational and the national or PCT international filing date of the sational and the national and the nati

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Title of Invention	GATE DRIVING CIRCUIT AND METHOD FOR DETECTING SAME, ARRAY SUBSTRATE AND DISPLAY APPARATUS		
As a below n	amed inventor, I hereby declare that:		
This declarat is directed to The above-id	MThe attached application or		
I believe that application.	I am the original inventor or an original joint inventor of a claimed invention in the		
	nowledge that any willful false statement made in this declaration is punishable .C. 1001 by fine or imprisonment of not more than five (5) years, or both.		

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

1

WARRANT AND COVENANT that no assignment, grant, mortgage, becase or other agreement affecting the rights and property herein conveyed has been or will be made to others by the undersigned, and that the full right to convey the same as herein expressed is possessed by the undersigned.

COVENANT, when requested and at the expense of the Assignee, to carry out as good faith the intent and purpose of this assignment the undersigned will execute all divisional, continuing, substitute, renewal, reissue, and all other patent applications or 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 rite to such aventions in the Assignee, and for securing, maintaining and enforcing proper patent protection for such inventions:

TO DE BINDING on the heirs, assigns, representatives and successors of the anders good 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 <u>Westman.</u>

<u>Champlin & Koehler, P.A.</u> 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.

Each owing the duty to disclose to the United States Patent Office all information brown to the to be material to patentability as defined in 37 C.F.R. 1.56, including for contribution in our applications, material information which became available between the United State of the prior application and the national or PCT international filing date of the contribution-in-part.

PATENT REEL: 042504 FRAME: 0523

RECORDED: 05/25/2017