# PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4586279

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

### **CONVEYING PARTY DATA**

Name	Execution Date
SHENGJI YANG	06/28/2017
XUE DONG	06/28/2017
HAILIN XUE	06/28/2017
XIAOCHUAN CHEN	06/28/2017
HAISHENG WANG	06/28/2017
YINGMING LIU	06/28/2017
XIAOLIANG DING	06/28/2017
WEIJIE ZHAO	06/28/2017
CHANGFENG LI	06/28/2017
PENGPENG WANG	06/28/2017
WEI LIU	06/28/2017

### **RECEIVING PARTY DATA**

BOE TECHNOLOGY GROUP CO., LTD.
NO. 10 JIUXIANQIAO RD.
CHAOYANG DISTRICT
BEIJING
CHINA
100015
BEIJING BOE OPTOELECTRONICS TECHNOLOGY CO., LTD.
NO.8 XIHUANZHONGLU, BDA
BEIJING
CHINA
100176

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

Property Type	Number
Application Number:	15556958

### **CORRESPONDENCE DATA**

**Fax Number:** (314)621-2307

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent

PATENT

504539572 REEL: 043790 FRAME: 0743

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

**Phone:** 314-621-5070

Email: USpatents@armstrongteasdale.com

Correspondent Name: PATENT DOCKET DEPARTMENT ARMSTRONG TEASD

Address Line 1: 7700 FORSYTH BOULEVARD

Address Line 2: SUITE 1800

Address Line 4: ST. LOUIS, MISSOURI 63105

ATTORNEY DOCKET NUMBER:	X1501777B1 (35732-00125)
NAME OF SUBMITTER:	DANIEL M. FITZGERALD
SIGNATURE:	/Daniel M. Fitzgerald/
DATE SIGNED:	09/08/2017

### **Total Attachments: 22**

source=125declarationsassignments-27113774#page1.tif source=125declarationsassignments-27113774#page2.tif source=125declarationsassignments-27113774#page3.tif source=125declarationsassignments-27113774#page4.tif source=125declarationsassignments-27113774#page5.tif source=125declarationsassignments-27113774#page6.tif source=125declarationsassignments-27113774#page7.tif source=125declarationsassignments-27113774#page8.tif source=125declarationsassignments-27113774#page9.tif source=125declarationsassignments-27113774#page10.tif source=125declarationsassignments-27113774#page11.tif source=125declarationsassignments-27113774#page12.tif source=125declarationsassignments-27113774#page13.tif source=125declarationsassignments-27113774#page14.tif source=125declarationsassignments-27113774#page15.tif source=125declarationsassignments-27113774#page16.tif source=125declarationsassignments-27113774#page17.tif source=125declarationsassignments-27113774#page18.tif source=125declarationsassignments-27113774#page19.tif source=125declarationsassignments-27113774#page20.tif source=125declarationsassignments-27113774#page21.tif source=125declarationsassignments-27113774#page22.tif

> PATENT REEL: 043790 FRAME: 0744

Title of Invention	PIXEL CIRCUIT, DRIVING METHOD THEREOF, SUBSTRATE, DISPLAY PANEL AND ELECTRONIC DEVICE	
As a below named inventor, I hereby declare that:		
This declaration is directed to:  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 thain the applic	at I am the original inventor or an original joint inventor of a claimed invention ation.	
I hereby acknowledge 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.		

FOR GOOD AND VALUABLE CONSIDERATION, the receipt, sufficiency and adequacy of which are hereby acknowledged, the undersigned inventor (hereinafter referred to as "ASSIGNOR"), does 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 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 aboveidentified application for United States Letters Patent, which has been executed by the undersigned concurrently herewith, which claims priority to PCT/CN2017/071642 filed on January 19, 2017; which in turn claims priority to CN201610333690.1 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.

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#### **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(First, LAST): Shengji YANG	Date: 744, 29.2017
Signature: Shery ji Yavy	
·	

Title of Invention	PIXEL CIRCUIT, DRIVING METHOD THEREOF, SUBSTRATE, DISPLAY PANEL AND ELECTRONIC DEVICE	
As a below	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 that I am the original inventor or an original joint inventor of a claimed invention in the application.		
I hereby acknowledge 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.		

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#### **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(First, LAST): Xue DONG	Date: Jun, 18, 74)
Signature: XW DONG	

Title of Invention	PIXEL CIRCUIT, DRIVING METHOD THEREOF, SUBSTRATE, DISPLAY PANEL AND ELECTRONIC DEVICE	
As a below	named inventor, I hereby declare that:	
This decla	ration	
is directed	to:   ▼ The attached application, or	
	United States application or PCT international application numberfiled 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 ation.	
	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) th.	

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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(First, LAST): Hailin XUE	Date: TWV8 2017
Signature: Horlan XUE	

Title of Invention	PIXEL CIRCUIT, DRIVING METHOD THEREOF, SUBSTRATE, DISPLAY PANEL AND ELECTRONIC DEVICE	
As a below	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 that in the applic	t I am the original inventor or an original joint inventor of a claimed invention ation.	
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#### **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(First, LAST): Xiaochuan CHEN	Date. Jun 28. 201
Signature: X100 (huon (HFN)	

Title of Invention	PIXEL CIRCUIT, DRIVING METHOD THEREOF, SUBSTRATE, DISPLAY PANEL AND ELECTRONIC DEVICE	
As a below	named inventor, I hereby declare that:	
This decla	☑ The attached application or	
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.		
	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.	

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#### **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(First, LAST): Haisheng WANG	Date: Jun 28 2017
Signature: Harshem WANG	

Title of Invention	PIXEL CIRCUIT, DRIVING METHOD THEREOF, SUBSTRATE, DISPLAY PANEL AND ELECTRONIC DEVICE	
As a below named inventor, I hereby declare that:		
This decla	ration	
is directed	to:   ▼ The attached application, or	
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l The above-identified application was made or authorized to be made by me.		
I believe that in the applic	t I am the original inventor or an original joint inventor of a claimed invention ation.	
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1

PATENT REEL: 043790 FRAME: 0755

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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(First, LAST): Yingming LIU	Date: Jun. > 201)
Signature: Ying ming L714	

Title of Invention	PIXEL CIRCUIT, DRIVING METHOD THEREOF, SUBSTRATE, DISPLAY PANEL AND ELECTRONIC DEVICE	
As a below named inventor, I hereby declare that:		
This decla	ration	
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LEGAL NAME OF INVENTOR	
Inventor(First, LAST): Xiaoliang DING	Date: Jun. 20, 20)
Signature: Xibo Cray DZM4	
<i>-</i>	

Title of Invention	PIXEL CIRCUIT, DRIVING METHOD THEREOF, SUBSTRATE, DISPLAY PANEL AND ELECTRONIC DEVICE		
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The above-identified application was made or authorized to be made by me.			
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	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) th.		

FOR GOOD AND VALUABLE CONSIDERATION, the receipt, sufficiency and adequacy of which are hereby acknowledged, the undersigned inventor (hereinafter referred to as "ASSIGNOR"), does 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 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 aboveidentified application for United States Letters Patent, which has been executed by the undersigned concurrently herewith, which claims priority to PCT/CN2017/071642 filed on January 19, 2017; which in turn claims priority to CN201610333690.1 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 **ARMSTRONG TEASDALE LLP** 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(First, LAST): Weijie ZHA()	Date: \( \frac{1}{2} \)
Signature: Weife 2500	

Title of Invention	PIXEL CIRCUIT, DRIVING METHOD THEREOF, SUBSTRATE, DISPLAY PANEL AND ELECTRONIC DEVICE		
As a below	As a below named inventor, I hereby declare that:		
This declar	The attached application or		
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 hereby acknowledge 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.			

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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;

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;

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#### **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(First, LAST): Changfeng L1	Date: Jun 18 201)
Signature: Changton 17	

Title of Invention	PIXEL CIRCUIT, DRIVING METHOD THEREOF, SUBSTRATE, DISPLAY PANEL AND ELECTRONIC DEVICE		
As a below	As a below named inventor, I hereby declare that:		
This decla	☑ The attached application, or		
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.			
	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) th.		

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#### **STATEMENTS**

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

Date: The 28 2017
-

Title of Invention	PIXEL CIRCUIT, DRIVING METHOD THEREOF, SUBSTRATE, DISPLAY PANEL AND ELECTRONIC DEVICE		
As a below named inventor, I hereby declare that:			
This decla	ration		
is directed	to:   ☑ The attached application, or		
	United States application or PCT international application numberfiled on		
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.			
	nowledge 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) th.		

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#### **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(First, LAST): Wei LIU	Date Jun 28. 201)
Signature: Wei 124	