506029952 04/24/2020

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT6076667

SUBMISSION TYPE:	NEW ASSIGNMENT	
NATURE OF CONVEYANCE:	ASSIGNMENT	

CONVEYING PARTY DATA

Name	Execution Date
YANG LI	02/22/2020
YUNZHI WANG	02/22/2020
YUN LUO	02/22/2020
XIAOMING FENG	02/22/2020
MINYANG DENG	02/22/2020

RECEIVING PARTY DATA

Name:	CHENGDU BOE OPTOELECTRONICS TECHNOLOGY CO., LTD.	
Street Address:	NO. 1188 HEZUO ROAD, (WEST ZONE), HI-TECH	
Internal Address:	ss: DEVELOPMENT ZONE, SICHUAN	
City:	CHENGDU	
State/Country:	CHINA	
Postal Code:	611731	
Name:	BOE TECHNOLOGY GROUP CO., LTD.	
Street Address:	NO.10 JIUXIANQIAO RD., CHAOYANG DISTRICT	
City:	BEIJING	
State/Country:	CHINA	
Postal Code:	100015	

PROPERTY NUMBERS Total: 1

Property Type	Number	
Application Number:	16857369	

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: 6123343222

Email: bdahlager@wck.com
Correspondent Name: JUDSON K CHAMPLIN

Address Line 1: 121 SOUTH EIGHTH STREET

Address Line 2: SUITE 1100

Address Line 4: MINNEAPOLIS, MINNESOTA 55402

506029952 PATENT REEL: 052485 FRAME: 0408

B200.0888US1		
JUDSON K. CHAMPLIN		
/Judson K. Champlin/		
04/24/2020		
.tif		
tif		
source=Assignment_2020-04-24#page3.tif		
source=Assignment_2020-04-24#page4.tif		
source=Assignment_2020-04-24#page5.tif		
source=Assignment_2020-04-24#page6.tif		
source=Assignment_2020-04-24#page7.tif		
source=Assignment_2020-04-24#page8.tif		
source=Assignment_2020-04-24#page9.tif		

source=Assignment_2020-04-24#page10.tif

PATENT REEL: 052485 FRAME: 0409

COMBINED DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76) AND ASSIGNMENT

50555565555 -6665	
Title of Invention	PIXEL DRIVING CIRCUIT, DISPLAY PANEL AND METHODS FOR DRIVING THE SAME
As a belov	v named inventor, I hereby declare that:
This decla	ration
is directed	to: W The attached application, or
sport cocc s.	United States application or PCT international application number 16/857,369 filed on April 24, 2020
rne 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 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)

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 Chengdu BOE Optoclectronics Technology Co., Ltd. , baving a place of business at No.1188 Hezuo Rd., (West Zone), Hi-tech Development Zone, Chengdu, Sichuan, 611731, P.R.China , and TECHNOLOGY GROUP CO., LTD. , having a place of business at No.10 Jiuxiangiao Rd., Chaoyang District, Beijing 100015, P.R. 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 _____CN201911189265.X filed on Nov.28,2019; 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 <u>Westman</u>. Champlin & Kochler, P.A. 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 NAM	E OF INVE					
	Yunzhi WAN	√G.	 	www.	2.2020	
Signature:	Yuuzhi	Www.				

COMBINED DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76) AND ASSIGNMENT

Title of Invention	PIXEL DRIVING CIRCUIT, DISPLAY PANEL AND METHODS FOR DRIVING THE SAME		
As a below	named inventor, I hereby declare that:		
This decla	© The attached application or		
	United States application or PCT international application number		
The above-	dentified application was made or authorized to be made by me.		
t believe than the applic	at I am the original inventor or an original joint inventor of a claimed invention cation.		
l hereby acl 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) with.		

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 Chengdu BOE Optoclectronics Technology Co., Ltd. ,having a place of business at No.1188 Hezuo Rd., (West Zone), Hi-tech Development Zone, Chengdu, Sichuan, 611731, P.R.China , and TECHNOLOGY GROUP CO., LTD. , having a place of business at No.10 Jiuxiangiao Rd., Chaoyang District, Beijing ,100015, P.R. 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 CN201911189265.X filed on Nov.28,2019; 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;

j

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 <u>Westman</u>. Champlin & Koehler, P.A. 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: Minyang DENG	Date: FBb. 22.2020
Min Yann DENG	

COMBINED DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76) AND ASSIGNMENT

Title of Invention	PIXEL DRIVING CIRCUIT, DISPLAY PANEL AND METHODS FOR DRIVING THE SAME			
As a below	named inventor, I hereby declare that:			
This decla	ration			
is directed	to:			
The above-i	United States application or PCT international application numberfiled on 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 ation.			
	cnowledge 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, each undersigned inventor (hereinafter referred to as "ASSIGNOR"), do hereby:

SELL, ASSIGN AND TRANSFER to Chengdu BOE Optoclectronics Technology Co., Ltd. ,having a place of business at No.1188 Hezuo Rd., (West Zone), Hi-tech Development Zone, Chengdu, Sichuan, 611731, P.R.China , and TECHNOLOGY GROUP CO., LTD. , having a place of business at No.10 Jiuxiangiao Rd., Chaoyang District, Beijing ,100015, P.R. 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 _____CN201911189265.X filed on Nov.28,2019; 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 <u>Westman</u>. Champlin & Kochler, P.A. 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: Yun LUO	Date: Feb, 22, 2020
Signature: YUN LUO	200

COMBINED DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76) AND ASSIGNMENT

Title of Invention	PIXEL DRIVING CIRCUIT, DISPLAY PANEL AND METHODS FOR DRIVING THE SAME			
As a below	named inventor, I hereby declare that:			
This decla	ration			
is directed	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.			
believe than 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 Changdu BOE Optoelectronics Technology Co., Ltd. having a place of business at No.1188 Hezuo Rd., (West Zone). Hi-tech Development Zone, Chengdu, Sichuan, 611731, P.R.China , and TECHNOLOGY GROUP CO., LTD. , having a place of business at No.10 Juxiangiao Rd., Chaoyang District, Beijing 100015, P.R. 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 <u>CN201911189265.X</u> filed on Nov.28.2019; 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 <u>Westman</u>. Champlin & Kochler, P.A. 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.

LEG/	L NAME OF INVENTOR	
Inve	otor: Yang LI Date: FU, 21, 2020	
Sign	otore: Youn II	

COMBINED DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76) AND ASSIGNMENT

PIXEL DRIVING CIRCUIT, DISPLAY PANEL AND METHODS FOR DRIVING THE SAME
named inventor, I hereby declare that:
ration:
to: The attached application, or
United States application or PCT international application numberfiled on
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 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 Chengly BOE Optoelectronics Technology Co., Ltd. ,having a place of business at No.1188 Hezuo Rd., (West Zone), Hi-tech Development Zone, Chengdu, Sichuan, 611731, P.R.China , and TECHNOLOGY GROUP CO., LTD. , having a place of business at No.10 Jiuxiangiao Rd., Chaoyang District, Beijing ,100015, P.R. 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 CN201911189265.X filed on Nov.28,2019; 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 <u>Westman</u>. Champlin & Knehler, P.A. 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: Xiaoming FENG Da	se. Fel, 22, 2020
Signature: Xian Ming Finly	

2

PATENT REEL: 052485 FRAME: 0419