### 505731004 10/18/2019

### PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5777815

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
NIKHIL JAIN	09/23/2019
ANDREW J. RITENOUR	06/15/2018
ILEANA RAU	06/15/2018
CLAUDIO CANIZARES	06/20/2018
LORI D. WASHINGTON	06/23/2018
GANG HE	06/27/2018
BRENDAN M. KAYES	06/20/2018

#### **RECEIVING PARTY DATA**

Name:	ALTA DEVICES, INC.
Street Address:	545 OAKMEAD PARKWAY
City:	SUNNYVALE
State/Country:	CALIFORNIA
Postal Code:	94085

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

Property Type	Number
Application Number:	16657765

### **CORRESPONDENCE DATA**

**Fax Number:** (202)857-6395

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:** 202-857-6000

**Email:** patentdocket@arentfox.com, Patrick.Lemus@arentfox.com

Correspondent Name: ARENT FOX LLP
Address Line 1: 1717 K STREET, NW

Address Line 4: WASHINGTON, D.C. 20006-5344

ATTORNEY DOCKET NUMBER:	037620.00416
NAME OF SUBMITTER:	PATRICK LEMUS
SIGNATURE:	/Patrick Lemus/
DATE SIGNED:	10/18/2019

PATENT 505731004 REEL: 050765 FRAME: 0112

### **Total Attachments: 6**

source=037620.00416 Assignment as filed 10-18-2019#page1.tif source=037620.00416 Assignment as filed 10-18-2019#page2.tif source=037620.00416 Assignment as filed 10-18-2019#page3.tif source=037620.00416 Assignment as filed 10-18-2019#page4.tif source=037620.00416 Assignment as filed 10-18-2019#page5.tif source=037620.00416 Assignment as filed 10-18-2019#page6.tif

# WORLDWIDE ASSIGNMENT

IN CONSIDERATION of the sum of One Dollar (\$1.00 US), and of other good and valuable consideration paid to the undersigned inventor(s) (hereinafter ASSIGNOR) by

[Insert		A	ALTA DEVICES, INC.		
ASSIGNEE's Name(s) and	IEE's 545 Oakmead Parkyyay				
Address(es)] Sunnyvale, CA 9408					
	44		United States		
	hereby sells, assign	GNEE), the receipt of which as and transfers to ASSIGNE ingement, if any, and all right	E the entire and exclusive	right, title and intere	est, including the right
[Title of Invention]	OPTOELEC'	TRONIC DEVICES MANUI	FACTURED USING DIF	FERENT GROWTH	SUBSTRATES
*If the assignment is being filed after the filing of	filed indicated below:				
the application,	filed on	October 18, 2019	Serial No.:	16/657,765	
this section must be completed]	(Arent Fox LLP is hereby authorized to insert the series code, serial number and/or filing date, when known)				
	and all Letters Patent of the United States and its territorial possessions and in any and all foreign countries to be obtained therefor on said application or any continuation, divisional, continuation-in-part, renewal, substitute, reissue or reexamination thereof, and any other applications claiming priority thereto, including future inventions or improvements, for the full term or terms for which the same may be granted.				
	The ASSIGNOR agrees to execute all papers necessary in connection with application and any continuing, divisional, continuation-in-part, reissue or reexamination applications thereof and any other applications claiming priority thereto, including future inventions or improvements, also to execute separate assignments in connection with such applications as the ASSIGNEE may deem necessary or expedient.				
	The ASSIGNOR agrees to execute all papers necessary in connection with any interference, litigation, or other legal proceeding which may be declared concerning this application or any continuation, divisional, continuation-in-part, reissue or reexamination thereof or Letters Patent or reissue patent issued thereon, and any other applications claiming priority thereto, including future inventions or improvements, and to cooperate with the ASSIGNEE in every way possible in obtaining and producing evidence and proceeding with such interference, litigation, or other legal proceeding.				
	IN WITNESS WHEREOF, the undersigned inventor(s) has (have) affixed his/her/their signature(s).				
Signature(s) of Assignor(s)]			Nikhil J	AIN	9/23/2019
<i>D</i> = 0.72	(Sto	JNATURE)	(TYPE N.	AME)	(DATE)
	•				

## WORLDWIDE ASSIGNMENT

IN CONSIDERATION of the sum of One Dollar (\$1.00 US), and of other good and valuable consideration he undersigned inventor(s) (hereinafter ASSIGNOR) by

	pard to the undersig	gned inventor(s) (nere	maner Assignor	.) by		
[Insert	ALTA DEVICES, INC.					
ASSIGNEE's Name(s) and	545 Oakmead Parkway					
Address(es)]	Sunnyvale, CA 94085					
	(hereinafter ASSIGNEE), the receipt of which is hereby acknowledged, the undersigned ASSIGNOR agrees to and hereby sells, assigns and transfers to ASSIGNEE the entire and exclusive right, title and interest, including the right to sue for past infringement, if any, and all rights pursuant to 35 U.S.C. §154, to the invention titled					
[Title of Invention]	GROWTH STRUCTURE UNDER A RELEASE LAYER FOR MANUFACTURING OF OPTOELECTRONIC DEVICES					
[*If the assignment is being filed after the filing of	indicated below:					erewith unless otherwise
the application,	filed on	June 14, 2018	s	erial No.:	16/008,919	
this section must be completed]	(Arent Fox I	LLP is hereby authorized to	insert the series code, so	erial number an	d/or filing date, when k	nown)
and all Letters Patent of the United States and its territorial possessions and in any and all foreign obtained therefor on said application or any continuation, divisional, continuation-in-part, rereissue or reexamination thereof, and any other applications claiming priority thereto, including further improvements, for the full term or terms for which the same may be granted.				part, renewal, substitute,		
	The ASSIGNOR agrees to execute all papers necessary in connection with application and any continuing, divisional, continuation-in-part, reissue or reexamination applications thereof and any other applications claiming priority thereto, including future inventions or improvements, also to execute separate assignments in connection with such applications as the ASSIGNEE may deem necessary or expedient.					
	other legal process continuation-in-part other applications	eding which may be t, reissue or reexamir claiming priority there ery way possible in o	declared concernation thereof or L to, including future	ing this ap etters Paten inventions	oplication or any it or reissue patent or improvements, a	nterference, litigation, or continuation, divisional, issued thereon, and any and to cooperate with the g with such interference,
	IN WITN	ESS WHEREOF, the t	undersigned invento	or(s) has (ha	ve) affixed his/her/	their signature(s).
[Signature(s) of Assignor(s)]	And a RA	2		Andrew J. I	RITENOUR	6/15/18
or resugnor(s)	(SIC	SNATURE)			NAME)	(DATE)
	Jama (SIG	Fair		Ileana	RAU	6/15/18
	(SIC	ENATURE)			NAME)	(DATE)
	Clem	2		Claudio CA	ANIZARES	6/20/18
	(SIC	GNATURE)		•	NAME) SHINGTON	(DATE)
	(SIC	GNATURE)		(TYPE)	NAME)	(DATE)
	· CHAN	$\mathcal{M}$		Brendan N	A. KAYES	6/20/18
	(SIC	GNATURE)		(TYPE)	NAME)	(DATE)
	,	·		Gang		• •
	(SIC	3NATURE)		(TYPE)	NAME)	(DATE)

**PATENT REEL: 050765 FRAME: 0115** 

(DATE)

## WORLDWIDE ASSIGNMENT

IN CONSIDERATION of the sum of One Dollar (\$1.00 US), and of other good and valuable consideration paid to the undersigned inventor(s) (hereinafter ASSIGNOR) by

[Insert
ASSIGNEE's
Name(s) and
Address(es)]

#### ALTA DEVICES, INC.

545 Oakmead Parkway

Sunnyvale, CA 94085

(hereinafter ASSIGNEE), the receipt of which is hereby acknowledged, the undersigned ASSIGNOR agrees to and hereby sells, assigns and transfers to ASSIGNEE the entire and exclusive right, title and interest, including the right to sue for past infringement, if any, and all rights pursuant to 35 U.S.C. §154, to the invention titled

[Title of Invention]

# GROWTH STRUCTURE UNDER A RELEASE LAYER FOR MANUFACTURING OF OPTOELECTRONIC DEVICES

[\*If the assignment is being filed after the filing of the application, this section must be completed] for which application for Letters Patent of the United States was executed on even date herewith unless otherwise indicated below:

filed on June 14, 2018

Serial No.:

16/008,919

(Arent Fox LLP is hereby authorized to insert the series code, serial number and/or filing date, when known)

and all Letters Patent of the United States and its territorial possessions and in any and all foreign countries to be obtained therefor on said application or any continuation, divisional, continuation-in-part, renewal, substitute, reissue or reexamination thereof, and any other applications claiming priority thereto, including future inventions or improvements, for the full term or terms for which the same may be granted.

The ASSIGNOR agrees to execute all papers necessary in connection with application and any continuing, divisional, continuation-in-part, reissue or reexamination applications thereof and any other applications claiming priority thereto, including future inventions or improvements, also to execute separate assignments in connection with such applications as the ASSIGNEE may deem necessary or expedient.

The ASSIGNOR agrees to execute all papers necessary in connection with any interference, litigation, or other legal proceeding which may be declared concerning this application or any continuation, divisional, continuation-in-part, reissue or reexamination thereof or Letters Patent or reissue patent issued thereon, and any other applications claiming priority thereto, including future inventions or improvements, and to cooperate with the ASSIGNEE in every way possible in obtaining and producing evidence and proceeding with such interference, litigation, or other legal proceeding.

IN WITNESS WHEREOF, the undersigned inventor(s) has (have) affixed his/her/their signature(s).

[Signature(s) of Assignor(s)]

#### Andrew J. RITENOUR

(SIGNATURE)

(TYPE NAME)

(DATE)

Ileana RAU

(SIGNATURE)

(TYPE NAME)

(DATE)

### Claudio CANIZARES

	(SIGNATURE)	(TYPE NAME)	(DATE)
KIN	Channe	Lori D. WASHINGTON	6/23/15
	(SIGNATURE)	(TYPE NAME)	(DATE)
		Brendan M. KAYES	
a i i i a a calda e a acade e a	(SIGNATURE)	(TYPE NAME)	(DATE)
		Gang HE	
	(SIGNATURE)	(TYPE NAME)	(DATE)

### WORLDWIDE ASSIGNMENT

IN CONSIDERATION of the sum of One Dollar (\$1.00 US), and of other good and valuable consideration paid to the undersigned inventor(s) (hereinafter ASSIGNOR) by

[Insert	ALTA DEVICES, INC.				
ASSIGNEE's Name(s) and	545 Oakmead Parkway				
Address(es)]	Sunnyvale, CA 94085				
	(hereinafter ASSIGNEE), the receipt of which is hereby acknowledged, the undersigned ASSIGNOR agrees to and hereby sells, assigns and transfers to ASSIGNEE the entire and exclusive right, title and interest, including the right to sue for past infringement, if any, and all rights pursuant to 35 U.S.C. §154, to the invention titled				
[Title of Invention]	GROWTH STRUCTURE UNDER A RELEASE LAYER FOR MANUFACTURING OF OPTOELECTRONIC DEVICES				
(*If the assignment	for which application for Letters Patent of the United States was executed on even date herewith unless otherwise indicated below:				
is being filed after the filing of	filed onJune 14, 2018 Serial No.:16/008,919				
the application, this section must be completed]	(Arent Fox LLP is hereby authorized to insert the series code; serial number and/or filing date, when known)				
	and all Letters Patent of the United States and its territorial possessions and in any and all foreign countries to be obtained therefor on said application or any continuation, divisional, continuation-in-part, renewal, substitute, reissue or reexamination thereof, and any other applications claiming priority thereto, including future inventions or improvements for the full term or terms for which the same may be				

including future inventions or improvements, for the full term or terms for which the same may be granted.

The ASSIGNOR agrees to execute all papers necessary in connection with application and any continuing, divisional, continuation-in-part, reissue or reexamination applications thereof and any other applications claiming priority thereto, including future inventions or improvements, also to execute separate assignments in connection with such applications as the ASSIGNEE may deem necessary or expedient.

The ASSIGNOR agrees to execute all papers necessary in connection with any interference, litigation, or other legal proceeding which may be declared concerning this application or any continuation, divisional, continuation-in-part, reissue or reexamination thereof or Letters Patent or reissue patent issued thereon, and any other applications claiming priority thereto, including future inventions or improvements, and to cooperate with the ASSIGNEE in every way possible in obtaining and producing evidence and proceeding with such interference, litigation, or other legal proceeding.

IN WITNESS WHEREOF, the undersigned inventor(s) has (have) affixed his/her/their signature(s).

[Signature(s) of Assignor(s)]		Andrew J. RITENOUR	
or Assignor(s))	(SIGNATURE)	(TYPE NAME) Ileana R <b>AU</b>	(DATE)
	(SIGNATURE)	(TYPE NAME) Claudio CANIZARES	(DATE)
	(SIGNATURE)	(TYPE NAME) Lori D. WASHINGTON	(DATE)
	(SIGNATURE)	(TYPE NAME) Brendan M. KAYES	(DATE)

(SIGNATURE)	(TYPE NAME)	(DATE)
Goste	Gang HE	6/27/2018
(SIGNATURE)	(TYPE NAME)	(DATE)

PATENT REEL: 050765 FRAME: 0119

**RECORDED: 10/18/2019**