

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT5836857

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
CHENG ZHANG	02/20/2019
GREGORY D. ABOWD	02/20/2019
OMER INAN	08/08/2019
THAD EUGENE STARNER	11/05/2019
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	GEORGIA TECH RESEARCH CORPORATION
<b>Street Address:</b>	505 TENTH STREET, N.W.
<b>City:</b>	ATLANTA
<b>State/Country:</b>	GEORGIA
<b>Postal Code:</b>	30332-0415
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	16325932
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	
<i>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.</i>	
<b>Email:</b>	ronna.berman@troutmansanders.com
<b>Correspondent Name:</b>	TROUTMAN SANDERS LLP
<b>Address Line 1:</b>	600 PEACHTREE STREET, NE
<b>Address Line 2:</b>	SUITE 3000
<b>Address Line 4:</b>	ATLANTA, GEORGIA 30308
<b>ATTORNEY DOCKET NUMBER:</b>	011529.113269 (GTRC7158)
<b>NAME OF SUBMITTER:</b>	RYAN A. SCHNEIDER
<b>SIGNATURE:</b>	/Ryan A. Schneider, Reg. #45083/
<b>DATE SIGNED:</b>	11/25/2019
<b>Total Attachments: 6</b>	
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## ASSIGNMENT

WHEREAS, We, **Cheng Zhang, Gregory D. Abowd, Omer Inan and Thad Eugene Starner** (collectively referred to as "Assignors"), have invented certain improvements in **ELECTRONIC DEVICE AND METHOD OF CONTROLLING THE SAME**, for which an Application was filed **February 15, 2019**, and provided U.S. Application No. **16/325,932** claiming priority to International Application No. **PCT/US2017/046960**, was filed on **August 15, 2017**, which claims priority to U.S. Provisional Patent Application No. **62/374,939** filed **August 15, 2016**, and for which future applications may be filed, (collectively referred to as the "Application"), and whereas

**GEORGIA TECH RESEARCH CORPORATION**  
**505 Tenth Street, N.W.**  
**Atlanta, Georgia 30332-0415**  
**United States**

("Assignee") desires to purchase all of Assignors' rights in same;

**NOW THEREFORE**, in consideration of the sum of One Dollar (\$1.00) and other good and valuable considerations paid by the said Assignee, the receipt and sufficiency of which are hereby acknowledged, Assignors have and by these presents do hereby sell, assign, transfer and convey unto said Assignee all of Assignors' rights, title, and interest in and to said Application, including in and to any conventional, division, continuation, continuation-in-part, substitution, reissue, renewal, reexam, continued prosecution application ("CPA"), or request for continued examination ("RCE") thereof, and in and to all inventions and improvements thereon (herein collectively referred to as "Related US Applications"), preparatory to obtaining Letters Patent of the United States therefore; and Assignors hereby request the Commissioner of Patents and Trademarks to issue any and all Letters Patent of the United States resulting from said Application and Related US Applications, to Assignee, for its interest and for the sole use and benefit of Assignee and its assigns and legal representatives.

**For the same consideration**, Assignors, by these presents do sell, assign, and transfer to Assignee all of Assignors' rights, title and interest in and to any foreign and international applications related to and/or seeking benefit of said Application and Related US Applications, and in and to all inventions and improvements thereon (herein collectively referred to as "Related Foreign Applications"), in and to any Letters Patent and similar protective rights granted on said Related Foreign Applications, and in and to the right to claim any applicable priority rights arising from or required for said Related Foreign Applications under the terms of any applicable conventions, treaties, statutes, or regulations, said Related Foreign Applications to be filed and issued in the name of Assignee or its designee, insofar as permitted by applicable law.

**For the same consideration**, Assignors agree, without charge to Assignee, but at Assignee's expense, to sign all lawful papers, execute said Application, Related US Applications and Related Foreign Applications, make all assignments and rightful oaths, assist in prosecution of said Application, Related US Applications and Related Foreign Applications, assist in prosecution of legal proceedings, and generally do everything reasonably possible to aid Assignee its successors, assigns, and nominees, to obtain and enforce proper protection for all said inventions and improvements in all countries throughout the world.

**AND, for the same consideration**, Assignors also hereby sell, assign and transfer unto Assignee all of Assignors' rights and claims to sue for damages and other remedies with respect

to any and all past infringement of all said Application, Related US Applications, and Related Foreign Applications, including said inventions and improvements which may have occurred before the date of this Assignment.

IN WITNESS WHEREOF, I have hereunto set my hand and seal this 20 day of February, 2019.

[Signature] (SEAL)  
Cheng Zhang

Witnessed by: [Signature]  
Signature

Date: 2/20/2019

Vincent Tseng  
Printed Name of Witness

Witnessed by: [Signature]  
Signature

Date: 2/20/2019

Julie Pagliuro  
Printed Name of Witness

SECTION BELOW IS FOR USE ONLY IF SIGNING IN PRESENCE OF A NOTARY

IN WITNESS WHEREOF, I have hereunto set my hand and seal this \_\_\_\_\_ day of \_\_\_\_\_, 2019.

\_\_\_\_\_  
Cheng Zhang (SEAL)

State of \_\_\_\_\_

County of \_\_\_\_\_

On this \_\_\_\_ day of \_\_\_\_\_, 2019, before me, a notary public, came to me known and known to be the individual described in and who executed the foregoing assignment, and he duly acknowledged the same to be his free act and deed.

\_\_\_\_\_  
NOTARY PUBLIC

(SEAL)

My Commission Expires:

IN WITNESS WHEREOF, I have hereunto set my hand and seal this 28 day of February, 2019.

Gregory D. Abowd (SEAL)  
Gregory D. Abowd

Witnessed by: [Signature]  
Signature

Date: 2/20/2019

Richard hi  
Printed Name of Witness

Witnessed by: [Signature]  
Signature

Date: 2/20/2019

Christine Clarkat  
Printed Name of Witness

SECTION BELOW IS FOR USE ONLY IF SIGNING IN PRESENCE OF A NOTARY

IN WITNESS WHEREOF, I have hereunto set my hand and seal this \_\_\_\_\_ day of \_\_\_\_\_, 2019.

\_\_\_\_\_  
(SEAL)  
Gregory D. Abowd

State of \_\_\_\_\_

County of \_\_\_\_\_

On this \_\_\_\_ day of \_\_\_\_\_, 2019, before me, a notary public, came to me known and known to be the individual described in and who executed the foregoing assignment, and he duly acknowledged the same to be his free act and deed.

\_\_\_\_\_  
NOTARY PUBLIC

(SEAL)

My Commission Expires:

IN WITNESS WHEREOF, I have hereunto set my hand and seal this \_\_\_\_\_ day of \_\_\_\_\_, 2019.

\_\_\_\_\_  
(SEAL)

Omer Inan

Witnessed by: \_\_\_\_\_  
Signature

Date: \_\_\_\_\_

\_\_\_\_\_  
Printed Name of Witness

Witnessed by: \_\_\_\_\_  
Signature

Date: \_\_\_\_\_

\_\_\_\_\_  
Printed Name of Witness

SECTION BELOW IS FOR USE ONLY IF SIGNING IN PRESENCE OF A NOTARY

IN WITNESS WHEREOF, I have hereunto set my hand and seal this 8 day of August, 2019.

[Signature] (SEAL)  
Omer Inan

State of Georgia

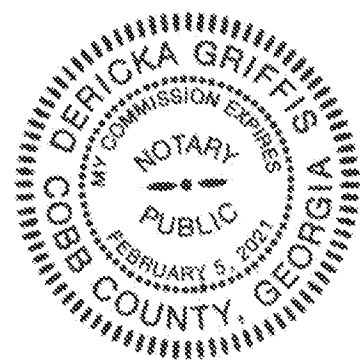
County of Cobb

On this 8 day of August, 2019, before me, a notary public, came to me known and known to be the individual described in and who executed the foregoing assignment, and he duly acknowledged the same to be his free act and deed.

[Signature]  
NOTARY PUBLIC

My Commission Expires: 02-05-2021

(SEAL)



IN WITNESS WHEREOF, I have hereunto set my hand and seal this 5 day of November, 2019.

Thad Eugene Starner (SEAL)  
Thad Eugene Starner

Witnessed by: [Signature]  
Signature

Date: 11/5/2019

Ceara Byrne  
Printed Name of Witness

Witnessed by: [Signature]  
Signature

Date: 11/6/2019

DING TIAN ZHANG  
Printed Name of Witness

SECTION BELOW IS FOR USE ONLY IF SIGNING IN PRESENCE OF A NOTARY

IN WITNESS WHEREOF, I have hereunto set my hand and seal this 5 day of November, 2019.

Thad Eugene Starner (SEAL)  
Thad Eugene Starner

State of \_\_\_\_\_

County of \_\_\_\_\_

On this \_\_\_\_\_ day of \_\_\_\_\_, 2019, before me, a notary public, came to me known and known to be the individual described in and who executed the foregoing assignment, and he duly acknowledged the same to be his free act and deed.

\_\_\_\_\_  
NOTARY PUBLIC

(SEAL)

My Commission Expires:

In Witness Whereof, Assignee hereby accepts from Assignors the sale, assignment, transfer and conveyance unto said Assignee of the full, exclusive and entire right, title, and interest in and to said Application, Related US Applications and Related Foreign Applications, by its duly authorized officer.

**Georgia Tech Research Corporation  
(Assignee)**

By: Terry Bray

Name: Terry Bray

Title: Authorized Signatory

Witnessed by: Kathleen Scott Havey  
Signature

Date: 1/20/17

Kathleen Scott Havey  
Printed Name of Witness

Witnessed by: Rene O. Sanders  
Signature

Date: 1/20/17

Rene O. Sanders  
Printed Name of Witness