

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT5112792

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
TIANMING ZHANG	07/27/2018
GIRISH SHEELVANT	07/26/2018
QI JIN	07/26/2018
NAGASIMHA HARAVU	07/30/2018
MICHAEL ZELDICH	07/26/2018
SATHISH JANAMANCHI	07/26/2018
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	EMC IP HOLDING COMPANY LLC
<b>Street Address:</b>	176 SOUTH STREET
<b>City:</b>	HOPKINTON
<b>State/Country:</b>	MASSACHUSETTS
<b>Postal Code:</b>	01748
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	16048486
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(508)366-4688
<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>Phone:</b>	508-616-2900
<b>Email:</b>	Docket@BainwoodHuang.com
<b>Correspondent Name:</b>	BAINWOOD, HUANG & ASSOCIATES, LLC
<b>Address Line 1:</b>	2 CONNECTOR ROAD
<b>Address Line 4:</b>	WESTBOROUGH, MASSACHUSETTS 01581
<b>ATTORNEY DOCKET NUMBER:</b>	1003-616
<b>NAME OF SUBMITTER:</b>	DAVID E. HUANG, ESQ.
<b>SIGNATURE:</b>	/David E. Huang, Reg. No. 39,229/
<b>DATE SIGNED:</b>	08/28/2018
<b>Total Attachments: 18</b>	

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**ASSIGNMENT**

**WHEREAS**, I, Tianming Zhang, as the original inventor or an original joint inventor have invented an invention comprising and/or embodying certain improvements or discoveries or both as described in an application for Letters Patent of the United States entitled

**PROVIDING DATA PROTECTION TO DESTINATION STORAGE OBJECTS ON  
REMOTE ARRAYS IN RESPONSE TO ASSIGNMENT OF DATA PROTECTION TO  
CORRESPONDING SOURCE STORAGE OBJECTS ON LOCAL ARRAYS**

which is further identified by Attorney Docket Number 1003-616;

**WHEREAS**, EMC IP Holding Company LLC (hereinafter "ASSIGNEE"), a limited liability company organized and existing under the laws of the state of Delaware and having a usual place of business at 176 South Street, Hopkinton, MA, 01748, USA, desires to acquire an interest therein in accordance with agreements duly entered into with me;

**NOW, THEREFORE**, to all whom it may concern be it known that for and in consideration of said agreements and of other good and valuable consideration, the receipt of which is hereby acknowledged, I have sold, assigned and transferred and by these presents do hereby sell, assign and transfer unto said ASSIGNEE, its successors, assigns and legal representatives, the entire right, title and interest in and throughout the United States of America, its territories and all foreign countries, in and to said invention as described in said application, together with the entire right, title and interest in and to said application and such Letters Patent as may issue thereon; said invention, application and Letters Patent to be held and enjoyed by said ASSIGNEE for its own use and behalf and for its successors, assigns and legal representatives, to the full end of the term for which said Letters Patent may be granted as fully and entirely as the same would have been held by me had this assignment and sale not been made; I hereby convey to ASSIGNEE all rights arising under or pursuant to any and all international agreements, treaties or laws relating to the protection of industrial property by filing any such applications for Letters Patent. I hereby acknowledge that this assignment, being of the entire right, title and interest in and to said invention, carries with it the right in ASSIGNEE to apply for and obtain from competent authorities in all countries of the world any and all Letters Patent by attorneys and agents of ASSIGNEE's selection and the right to procure the grant of all such Letters Patent to ASSIGNEE for its own name as assignee of the entire right, title and interest therein;

**AND**, I hereby further agree for myself and my executors and administrators to execute upon request any other lawful documents and likewise to perform any other lawful acts which may be deemed necessary to secure fully the aforesaid invention to said ASSIGNEE, its successors, assigns and legal representatives, but at its or their expense and charges, including the execution of applications for patents in foreign countries, and the execution of substitution, reissue, divisional or continuation applications and preliminary or other statements and the giving of testimony in any interference or other proceeding in which said invention or any application or patent directed thereto may be involved;

**AND**, I do hereby authorize and request the Commissioner of Patents of the United States to issue such Letters Patent as shall be granted upon said application or applications based thereon to said ASSIGNEE, its successors, assigns, and legal representatives;

**AND** I hereby authorize the attorneys at Bainwood Huang & Associates LLC to insert here in parentheses

( 16/048,486 , filed 07/30/2018 )

the application number and filing date of said application (or foreign counterpart application) to facilitate the recording or other official processing of this Assignment.

Date: July 27<sup>th</sup>, 2018

Tianming Zhang  
Inventor's Signature

Legal name of inventor:

Tianming Zhang

Residence:

37 Greenwood Rd.  
Hopkinton, MA 01748  
United States of America

Mailing Address:

Same as Above

Citizenship:

US

I John Cleary (name) whose residential address is  
17 Laurelwood Dr. Worcester, MA 01605

was personally present and did see Tianming Zhang (name of person signing the assignment) who is personally known to me, execute the above assignment.

John Cleary (signature of first witness)

Signed at 238 South St Hop. (location of witness signature)

on this day July 27 of 2018 (date of signature)

I Xiaomin Wu (name) whose residential address is  
15 Sunnyside Ave. Wellesley, MA 02482

was personally present and did see Tianming Zhang (name of person signing the assignment) who is personally known to me, execute the above assignment.

Xiaomin Wu (signature of second witness)

Signed at 228 South St Hopkinton, MA (location of witness signature)

on this day July 27 of 2018 (date of signature)

**ASSIGNMENT**

**WHEREAS**, I, Girish Sheelvant, as the original inventor or an original joint inventor have invented an invention comprising and/or embodying certain improvements or discoveries or both as described in an application for Letters Patent of the United States entitled

**PROVIDING DATA PROTECTION TO DESTINATION STORAGE OBJECTS ON  
REMOTE ARRAYS IN RESPONSE TO ASSIGNMENT OF DATA PROTECTION TO  
CORRESPONDING SOURCE STORAGE OBJECTS ON LOCAL ARRAYS**

which is further identified by Attorney Docket Number 1003-616;

**WHEREAS**, EMC IP Holding Company LLC (hereinafter "ASSIGNEE"), a limited liability company organized and existing under the laws of the state of Delaware and having a usual place of business at 176 South Street, Hopkinton, MA, 01748, USA, desires to acquire an interest therein in accordance with agreements duly entered into with me;

**NOW, THEREFORE**, to all whom it may concern be it known that for and in consideration of said agreements and of other good and valuable consideration, the receipt of which is hereby acknowledged, I have sold, assigned and transferred and by these presents do hereby sell, assign and transfer unto said ASSIGNEE, its successors, assigns and legal representatives, the entire right, title and interest in and throughout the United States of America, its territories and all foreign countries, in and to said invention as described in said application, together with the entire right, title and interest in and to said application and such Letters Patent as may issue thereon; said invention, application and Letters Patent to be held and enjoyed by said ASSIGNEE for its own use and behalf and for its successors, assigns and legal representatives, to the full end of the term for which said Letters Patent may be granted as fully and entirely as the same would have been held by me had this assignment and sale not been made; I hereby convey to ASSIGNEE all rights arising under or pursuant to any and all international agreements, treaties or laws relating to the protection of industrial property by filing any such applications for Letters Patent. I hereby acknowledge that this assignment, being of the entire right, title and interest in and to said invention, carries with it the right in ASSIGNEE to apply for and obtain from competent authorities in all countries of the world any and all Letters Patent by attorneys and agents of ASSIGNEE's selection and the right to procure the grant of all such Letters Patent to ASSIGNEE for its own name as assignee of the entire right, title and interest therein;

AND, I hereby further agree for myself and my executors and administrators to execute upon request any other lawful documents and likewise to perform any other lawful acts which may be deemed necessary to secure fully the aforesaid invention to said ASSIGNEE, its successors, assigns and legal representatives, but at its or their expense and charges, including the execution of applications for patents in foreign countries, and the execution of substitution, reissue, divisional or continuation applications and preliminary or other statements and the giving of testimony in any interference or other proceeding in which said invention or any application or patent directed thereto may be involved;

AND, I do hereby authorize and request the Commissioner of Patents of the United States to issue such Letters Patent as shall be granted upon said application or applications based thereon to said ASSIGNEE, its successors, assigns, and legal representatives;

AND I hereby authorize the attorneys at Bainwood Huang & Associates LLC to insert here in parentheses

( 16/048,486 , filed 07/30/2018 )

the application number and filing date of said application (or foreign counterpart application) to facilitate the recording or other official processing of this Assignment.

Date: 07/26/2018

  
Inventor's Signature

Legal name of inventor: Girish Sheelvant  
Residence: 29 Rocky Woods Road  
Hopkinton, MA 01748  
United States of America  
Mailing Address: Same as Above  
Citizenship: IN

I Dmitry Tylik (name) whose residential address is  
25 Charles str. Westborough, MA 01581

was personally present and did see Girish Sheelvant (name of person signing the assignment) who is personally known to me, execute the above assignment.

  
(signature of first witness)

Signed at Hopkinton, MA (location of witness signature)

on this day 07/26 of 20 18. (date of signature)

I William C. Whitney (name) whose residential address is  
78 Lamarre Dr, Marlborough MA 01752

was personally present and did see Girish Sheelvant (name of person signing the assignment) who is personally known to me, execute the above assignment.

  
(signature of second witness)

Signed at Hopkinton, MA (location of witness signature)

on this day 26 July of 20 18. (date of signature)



PATENT ASSIGNMENT  
Attorney Docket No.: 1003-616  
Client Docket No.: 112516.01

**ASSIGNMENT**

WHEREAS, I, Qi Jin, as the original inventor or an original joint inventor have invented an invention comprising and/or embodying certain improvements or discoveries or both as described in an application for Letters Patent of the United States entitled

**PROVIDING DATA PROTECTION TO DESTINATION STORAGE OBJECTS ON  
REMOTE ARRAYS IN RESPONSE TO ASSIGNMENT OF DATA PROTECTION TO  
CORRESPONDING SOURCE STORAGE OBJECTS ON LOCAL ARRAYS**

which is further identified by Attorney Docket Number 1003-616;

WHEREAS, EMC IP Holding Company LLC (hereinafter "ASSIGNEE"), a limited liability company organized and existing under the laws of the state of Delaware and having a usual place of business at 176 South Street, Hopkinton, MA, 01748, USA, desires to acquire an interest therein in accordance with agreements duly entered into with me;

NOW, THEREFORE, to all whom it may concern be it known that for and in consideration of said agreements and of other good and valuable consideration, the receipt of which is hereby acknowledged, I have sold, assigned and transferred and by these presents do hereby sell, assign and transfer unto said ASSIGNEE, its successors, assigns and legal representatives, the entire right, title and interest in and throughout the United States of America, its territories and all foreign countries, in and to said invention as described in said application, together with the entire right, title and interest in and to said application and such Letters Patent as may issue thereon; said invention, application and Letters Patent to be held and enjoyed by said ASSIGNEE for its own use and behalf and for its successors, assigns and legal representatives, to the full end of the term for which said Letters Patent may be granted as fully and entirely as the same would have been held by me had this assignment and sale not been made; I hereby convey to ASSIGNEE all rights arising under or pursuant to any and all international agreements, treaties or laws relating to the protection of industrial property by filing any such applications for Letters Patent. I hereby acknowledge that this assignment, being of the entire right, title and interest in and to said invention, carries with it the right in ASSIGNEE to apply for and obtain from competent authorities in all countries of the world any and all Letters Patent by attorneys and agents of ASSIGNEE's selection and the right to procure the grant of all such Letters Patent to ASSIGNEE for its own name as assignee of the entire right, title and interest therein;

PATENT ASSIGNMENT  
Attorney Docket No.: 1003-616  
Client Docket No.: 112516.01

**AND**, I hereby further agree for myself and my executors and administrators to execute upon request any other lawful documents and likewise to perform any other lawful acts which may be deemed necessary to secure fully the aforesaid invention to said ASSIGNEE, its successors, assigns and legal representatives, but at its or their expense and charges, including the execution of applications for patents in foreign countries, and the execution of substitution, reissue, divisional or continuation applications and preliminary or other statements and the giving of testimony in any interference or other proceeding in which said invention or any application or patent directed thereto may be involved;

**AND**, I do hereby authorize and request the Commissioner of Patents of the United States to issue such Letters Patent as shall be granted upon said application or applications based thereon to said ASSIGNEE, its successors, assigns, and legal representatives;

**AND** I hereby authorize the attorneys at Bainwood Huang & Associates LLC to insert here in parentheses

( 16/048,486 , filed 02/30/2018 )

the application number and filing date of said application (or foreign counterpart application) to facilitate the recording or other official processing of this Assignment.

PATENT ASSIGNMENT  
Attorney Docket No.: 1003-616  
Client Docket No.: 112516.01

Date: 7/26/2018

  
Inventor's Signature

Legal name of inventor: Qi Jin  
Residence: 2 Meachen Ln  
Sudbury, MA 01776  
United States of America  
Mailing Address: Same as Above  
Citizenship: US


I Shirley Ming (name) whose residential address is  
4 Chestnut Street, Acton, MA 01720,  
was personally present and did see Qi Jin (name of person signing the assignment)  
who is personally known to me, execute the above assignment.

 (signature of first witness)

Signed at 228 South Street, Hopkinton, MA (location of witness signature)

on this day 26th of July of 2018. (date of signature)

I Yi Fang (name) whose residential address is  
19 Revere Rd Sharon MA 02067,  
was personally present and did see Qi Jin (name of person signing the assignment)  
who is personally known to me, execute the above assignment.

 (signature of second witness)

Signed at 228 South Street, Hopkinton, MA (location of witness signature)

on this day 26th of July of 2018. (date of signature)

**ASSIGNMENT**

**WHEREAS**, I, Nagasimha Haravu, as the original inventor or an original joint inventor have invented an invention comprising and/or embodying certain improvements or discoveries or both as described in an application for Letters Patent of the United States entitled

**PROVIDING DATA PROTECTION TO DESTINATION STORAGE OBJECTS ON  
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which is further identified by Attorney Docket Number 1003-616;

**WHEREAS**, EMC IP Holding Company LLC (hereinafter "ASSIGNEE"), a limited liability company organized and existing under the laws of the state of Delaware and having a usual place of business at 176 South Street, Hopkinton, MA, 01748, USA, desires to acquire an interest therein in accordance with agreements duly entered into with me;

**NOW, THEREFORE**, to all whom it may concern be it known that for and in consideration of said agreements and of other good and valuable consideration, the receipt of which is hereby acknowledged, I have sold, assigned and transferred and by these presents do hereby sell, assign and transfer unto said ASSIGNEE, its successors, assigns and legal representatives, the entire right, title and interest in and throughout the United States of America, its territories and all foreign countries, in and to said invention as described in said application, together with the entire right, title and interest in and to said application and such Letters Patent as may issue thereon; said invention, application and Letters Patent to be held and enjoyed by said ASSIGNEE for its own use and behalf and for its successors, assigns and legal representatives, to the full end of the term for which said Letters Patent may be granted as fully and entirely as the same would have been held by me had this assignment and sale not been made; I hereby convey to ASSIGNEE all rights arising under or pursuant to any and all international agreements, treaties or laws relating to the protection of industrial property by filing any such applications for Letters Patent. I hereby acknowledge that this assignment, being of the entire right, title and interest in and to said invention, carries with it the right in ASSIGNEE to apply for and obtain from competent authorities in all countries of the world any and all Letters Patent by attorneys and agents of ASSIGNEE's selection and the right to procure the grant of all such Letters Patent to ASSIGNEE for its own name as assignee of the entire right, title and interest therein;

**AND**, I hereby further agree for myself and my executors and administrators to execute upon request any other lawful documents and likewise to perform any other lawful acts which may be deemed necessary to secure fully the aforesaid invention to said ASSIGNEE, its successors, assigns and legal representatives, but at its or their expense and charges, including the execution of applications for patents in foreign countries, and the execution of substitution, reissue, divisional or continuation applications and preliminary or other statements and the giving of testimony in any interference or other proceeding in which said invention or any application or patent directed thereto may be involved;

**AND**, I do hereby authorize and request the Commissioner of Patents of the United States to issue such Letters Patent as shall be granted upon said application or applications based thereon to said ASSIGNEE, its successors, assigns, and legal representatives;

**AND** I hereby authorize the attorneys at Bainwood Huang & Associates LLC to insert here in parentheses

( 16/048,486 , filed 07/30/2018 )

the application number and filing date of said application (or foreign counterpart application) to facilitate the recording or other official processing of this Assignment.

Date: 7/30/2018

[Signature]  
Inventor's Signature

Legal name of inventor: Nagasimha Haravu  
Residence: 1011 Taywood Way  
Apex, NC 27502  
United States of America  
Mailing Address: Same as Above  
Citizenship: US

I Sachith Iyengar (name) whose residential address is  
1011 Taywood Way, Apex NC 27502,  
was personally present and did see Nagasimha Haravu (name of person signing the  
assignment) who is personally known to me, execute the above assignment.

[Signature] (signature of first witness)

Signed at Apex NC (location of witness signature)

on this day July 30 of 2018. (date of signature)

I Jyothi Haravu (name) whose residential address is  
1011 Taywood Way Apex NC 27502,  
was personally present and did see Nagasimha Haravu (name of person signing the  
assignment) who is personally known to me, execute the above assignment.

[Signature] (signature of second witness)

Signed at Apex NC (location of witness signature)

on this day July 30<sup>th</sup> of 2018. (date of signature)

**ASSIGNMENT**

**WHEREAS**, I, Michael Zeldich, as the original inventor or an original joint inventor have invented an invention comprising and/or embodying certain improvements or discoveries or both as described in an application for Letters Patent of the United States entitled

**PROVIDING DATA PROTECTION TO DESTINATION STORAGE OBJECTS ON  
REMOTE ARRAYS IN RESPONSE TO ASSIGNMENT OF DATA PROTECTION TO  
CORRESPONDING SOURCE STORAGE OBJECTS ON LOCAL ARRAYS**

which is further identified by Attorney Docket Number 1003-616;

**WHEREAS**, EMC IP Holding Company LLC (hereinafter "ASSIGNEE"), a limited liability company organized and existing under the laws of the state of Delaware and having a usual place of business at 176 South Street, Hopkinton, MA, 01748, USA, desires to acquire an interest therein in accordance with agreements duly entered into with me;

**NOW, THEREFORE**, to all whom it may concern be it known that for and in consideration of said agreements and of other good and valuable consideration, the receipt of which is hereby acknowledged, I have sold, assigned and transferred and by these presents do hereby sell, assign and transfer unto said ASSIGNEE, its successors, assigns and legal representatives, the entire right, title and interest in and throughout the United States of America, its territories and all foreign countries, in and to said invention as described in said application, together with the entire right, title and interest in and to said application and such Letters Patent as may issue thereon; said invention, application and Letters Patent to be held and enjoyed by said ASSIGNEE for its own use and behalf and for its successors, assigns and legal representatives, to the full end of the term for which said Letters Patent may be granted as fully and entirely as the same would have been held by me had this assignment and sale not been made; I hereby convey to ASSIGNEE all rights arising under or pursuant to any and all international agreements, treaties or laws relating to the protection of industrial property by filing any such applications for Letters Patent. I hereby acknowledge that this assignment, being of the entire right, title and interest in and to said invention, carries with it the right in ASSIGNEE to apply for and obtain from competent authorities in all countries of the world any and all Letters Patent by attorneys and agents of ASSIGNEE's selection and the right to procure the grant of all such Letters Patent to ASSIGNEE for its own name as assignee of the entire right, title and interest therein;

**AND**, I hereby further agree for myself and my executors and administrators to execute upon request any other lawful documents and likewise to perform any other lawful acts which may be deemed necessary to secure fully the aforesaid invention to said ASSIGNEE, its successors, assigns and legal representatives, but at its or their expense and charges, including the execution of applications for patents in foreign countries, and the execution of substitution, reissue, divisional or continuation applications and preliminary or other statements and the giving of testimony in any interference or other proceeding in which said invention or any application or patent directed thereto may be involved;

**AND**, I do hereby authorize and request the Commissioner of Patents of the United States to issue such Letters Patent as shall be granted upon said application or applications based thereon to said ASSIGNEE, its successors, assigns, and legal representatives;

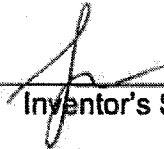
**AND** I hereby authorize the attorneys at Bainwood Huang & Associates LLC to insert here in parentheses

( 16/048,486 , filed 07/30/2018 )

the application number and filing date of said application (or foreign counterpart application) to facilitate the recording or other official processing of this Assignment.



Date: 07.26.2018

  
Inventor's Signature

Legal name of inventor:

Michael Zeldich

Residence:

61 Tanglewood Road  
Newton, MA 02459  
United States of America

Mailing Address:

Same as Above

Citizenship:

IL

I Dmitry Tylik (name) whose residential address is  
25 Charles str Westborough, MA 01581

was personally present and did see Michael Zeldich (name of person signing the assignment) who is personally known to me, execute the above assignment.

  
(signature of first witness)

Signed at Hopkinton MA (location of witness signature)

on this day 07/26 of 2018. (date of signature)

I William C Whitney (name) whose residential address is  
78 Lamarre Dr Marlborough, MA 01752

was personally present and did see Michael Zeldich (name of person signing the assignment) who is personally known to me, execute the above assignment.

  
(signature of second witness)

Signed at Hopkinton, MA (location of witness signature)

on this day 26 July of 2018. (date of signature)

**ASSIGNMENT**

**WHEREAS**, I, Sathish Janamanchi, as the original inventor or an original joint inventor have invented an invention comprising and/or embodying certain improvements or discoveries or both as described in an application for Letters Patent of the United States entitled

**PROVIDING DATA PROTECTION TO DESTINATION STORAGE OBJECTS ON  
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which is further identified by Attorney Docket Number 1003-616;

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**NOW, THEREFORE**, to all whom it may concern be it known that for and in consideration of said agreements and of other good and valuable consideration, the receipt of which is hereby acknowledged, I have sold, assigned and transferred and by these presents do hereby sell, assign and transfer unto said ASSIGNEE, its successors, assigns and legal representatives, the entire right, title and interest in and throughout the United States of America, its territories and all foreign countries, in and to said invention as described in said application, together with the entire right, title and interest in and to said application and such Letters Patent as may issue thereon; said invention, application and Letters Patent to be held and enjoyed by said ASSIGNEE for its own use and behalf and for its successors, assigns and legal representatives, to the full end of the term for which said Letters Patent may be granted as fully and entirely as the same would have been held by me had this assignment and sale not been made; I hereby convey to ASSIGNEE all rights arising under or pursuant to any and all international agreements, treaties or laws relating to the protection of industrial property by filing any such applications for Letters Patent. I hereby acknowledge that this assignment, being of the entire right, title and interest in and to said invention, carries with it the right in ASSIGNEE to apply for and obtain from competent authorities in all countries of the world any and all Letters Patent by attorneys and agents of ASSIGNEE's selection and the right to procure the grant of all such Letters Patent to ASSIGNEE for its own name as assignee of the entire right, title and interest therein;

**AND**, I hereby further agree for myself and my executors and administrators to execute upon request any other lawful documents and likewise to perform any other lawful acts which may be deemed necessary to secure fully the aforesaid invention to said ASSIGNEE, its successors, assigns and legal representatives, but at its or their expense and charges, including the execution of applications for patents in foreign countries, and the execution of substitution, reissue, divisional or continuation applications and preliminary or other statements and the giving of testimony in any interference or other proceeding in which said invention or any application or patent directed thereto may be involved;

**AND**, I do hereby authorize and request the Commissioner of Patents of the United States to issue such Letters Patent as shall be granted upon said application or applications based thereon to said ASSIGNEE, its successors, assigns, and legal representatives;

**AND** I hereby authorize the attorneys at Bainwood Huang & Associates LLC to insert here in parentheses

( 161048,486 , filed 07/30/2018 )

the application number and filing date of said application (or foreign counterpart application) to facilitate the recording or other official processing of this Assignment.

PATENT ASSIGNMENT  
Attorney Docket No.: 1003-616  
Client Docket No.: 112516.01

Date: 07/26/2018

J. P. Sathish  
Inventor's Signature

Legal name of inventor: Sathish Janamanchi  
Residence: 22 Ptarmigan Drive  
Shrewsbury, MA 01545  
United States of America  
Mailing Address: Same as Above  
Citizenship:

I, Dmitry Tylik (name) whose residential address is  
25 Charles Str. Westborough, MA 01581,  
was personally present and did see Sathish Janamanchi (name of person signing the  
assignment) who is personally known to me, execute the above assignment.

[Signature] (signature of first witness)

Signed at Hopkinton, MA (location of witness signature)

on this day 07/26 of 20 18 (date of signature)

I, William C Whitner (name) whose residential address is  
78 Lamarre Dr, Marlborough, MA 01752,

was personally present and did see Sathish Janamanchi (name of person signing the  
assignment) who is personally known to me, execute the above assignment.

[Signature] (signature of second witness)

Signed at Hopkinton MA (location of witness signature)

on this day July 26 of 20 18 (date of signature)