

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
MICHAEL E. SPECHT	01/30/2019
VINAY G. RAO	01/30/2019
SUBIN GEORGE	01/29/2019
ARIEH DON	01/29/2019
RECEIVING PARTY DATA	
Name:	EMC IP HOLDING COMPANY LLC
Street Address:	176 SOUTH STREET
City:	HOPKINTON
State/Country:	MASSACHUSETTS
Postal Code:	01748
PROPERTY NUMBERS Total: 1	
Property Type	Number
Application Number:	16263042
CORRESPONDENCE DATA	
Fax Number:	
<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>	
Phone:	508-898-8601
Email:	docketing@WESTBORO-IP.COM
Correspondent Name:	MUIRHEAD AND SATURNELLI, LLC
Address Line 1:	200 FRIBERG PARKWAY, SUITE 1001
Address Line 4:	WESTBOROUGH, MASSACHUSETTS 01581
ATTORNEY DOCKET NUMBER:	EMS-740US
NAME OF SUBMITTER:	DANIEL P. MCLOUGHLIN
SIGNATURE:	/Daniel P. McLoughlin/
DATE SIGNED:	01/31/2019
Total Attachments: 5	
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ASSIGNMENT

WHEREAS, we, Michael E. SPECHT, Vinay G. RAO, Subin GEORGE and Arieh DON, 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 DETERMINING ZONED BUT INACTIVE I/O PATHS, the specification of which:

- is being executed on even date herewith and is about to be filed in the United States Patent Office;
- was filed on _____ as U.S. Application No. _____;
- was patented under U.S. Patent No. _____ on _____.

WHEREAS, EMC IP HOLDING COMPANY LLC (hereinafter "ASSIGNEE"), which is a corporation organized and existing under the laws of Delaware and having a usual place of business at 176 South Street, Hopkinton, Massachusetts 01748 desires to acquire an interest therein in accordance with agreements duly entered into with us;

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, we 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 us had this assignment and sale not been made; we 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. We 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, we hereby further agree for ourselves and our 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, we 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, we hereby authorize attorneys of Muirhead and Saturnelli, LLC to insert here in parenthesis (16/263,042 filed January 31, 2019) the application number and filing date of said Application (or foreign counterpart application) to facilitate the recording or other official processing of this Assignment.

IN TESTIMONY WHEREOF, we have hereunto set our hands and affixed our seals as set forth below:

Date:

1/30/2019



Inventor's Signature

Print full name of first inventor:

Michael E. SPECHT

Residence:

100 Paddock Lane, Unit 1105
Boxborough, MA 01719

Citizenship:

USA

Mailing Address:

Same as above

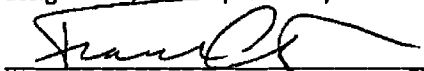
I, Joseph Aurelio (name) whose residential address is 7 Bicknell Dr. Mendon MA was personally present and did see Michael Specht (name of person signing the assignment) who is personally known to me, execute the above assignment.

 (signature of first witness)

Signed at 176 South St (location of witness signature)

on this day January 30 of 2019. (date of signature)

I, Francisco V. Aguirre (name) whose residential address is 20 Stearns rd Marlborough Ma. 01752 was personally present and did see Michael Specht (name of person signing the assignment) who is personally known to me, execute the above assignment.

 (signature of second witness)

Signed at 176 South St, Hopkinton, MA (location of witness signature)

on this day January 30 of 2019 (date of signature)

Date: 30th Jan 2019

G. Vinay Rao
Inventor's Signature

Print full name of second inventor: **Vinay G. RAO**
Residence: No C-202, ND Oliva
Soumsandrapalya, HSR 2nd Sec
Bangalore, India
Citizenship: INDIA
Mailing Address: Same as above

I MANTRIPRAGADA NIKHIL (name) whose residential address is BANGALORE
LG-17, RAJHAVENDRA PARAMOUNT APARTMENTS, KUNDANAHALLI,

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

Nikhil (signature of first witness)

Signed at BANGALORE (location of witness signature)

on this day 30th JAN of 2019. (date of signature)

I KURUMURTHY GOKAM (name) whose residential address is BANGALORE
#117, 5th main, chowdeswary layout, marathahalli,

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

Gokam (signature of second witness)

Signed at Bangalore (location of witness signature)

on this day 30th JAN of 2019. (date of signature)


Date: 01/29/2019



Inventor's Signature

Print full name of third inventor: **Subin GEORGE**
Residence: **1500 Worcester Rd, Apt 432
Framingham, MA 01702**
Citizenship: **USA**
Mailing Address: **Same as above**

I RAGHURAM ADABALA (name) whose residential address is
120 FRASIER LN JEWICKS BURY, MA 01876 was
personally present and did see SUBIN GEORGE (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 29 JAN of 20 19. (date of signature)

I Sichaw Zhu (name) whose residential address is
2 Warden drive, Unit 3, Needick, MA, 01860 was
personally present and did see Subin George (name of person signing the
assignment) who is personally known to me, execute the above assignment.

Sichaw Zhu

(signature of second witness)

Signed at Hopkinton MA (location of witness signature)

on this day 29 Jan of 20 19. (date of signature)

Date: 1.29.19

[Signature]
Inventor's Signature

Print full name of fourth inventor:

Arieh DON

Residence:

45 Dexter Road
Newton, MA 02460

Citizenship:

USA

Mailing Address:

Same as above

I Jeffrey Held (name) whose residential address is 40 Mark Drive, Milford, MA was personally present and did see Arieh Don (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 Jan 29 of 2019. (date of signature)

I _____ (name) whose residential address is _____ was personally present and did see _____ (name of person signing the assignment) who is personally known to me, execute the above assignment.

_____ (signature of second witness)

Signed at _____ (location of witness signature)

on this day _____ of 20____. (date of signature)