

## PATENT ASSIGNMENT COVER SHEET

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Stylesheet Version v1.2

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<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
EUGENE CHAI	06/11/2015
XIUFENG XIE	06/11/2015
MOHAMMAD KHOJASTEPOUR	06/10/2015
KARTHIKEYAN SUNDARESAN	06/11/2015
SAMPATH RANGARAJAN	06/11/2015
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	NEC LABORATORIES AMERICA, INC.
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<b>City:</b>	PRINCETON
<b>State/Country:</b>	NEW JERSEY
<b>Postal Code:</b>	08540
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	14738268
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<b>Fax Number:</b>	
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<b>ATTORNEY DOCKET NUMBER:</b>	14040B (449-376)
<b>NAME OF SUBMITTER:</b>	JAMES J. BITETTO
<b>SIGNATURE:</b>	/jjb/
<b>DATE SIGNED:</b>	06/12/2015
<b>Total Attachments: 2</b>	

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**ASSIGNMENT**

Whereas, we,

- (1) **Eugene Chai**, of 10003 Barclay Boulevard, Princeton, NJ 08540;
- (2) **Xiufeng Xie**, of 2924 Harvey Street Apt 5C, Madison, WI 53705;
- (3) **Mohammad Khojastepour**, of 17 Port Mercer Road, Lawrenceville, NJ 08648;
- (4) **Karthikeyan Sundaresan**, of 245 Larchwood Court, Howell, NJ 07731; and
- (5) **Sampath Rangarajan**, of 40 Linberger Drive, Bridgewater, NJ 08807

(hereinafter called "Assignor(s)"), have made a certain invention, and executed United States Patent Application entitled:

**EFFICIENT LARGE-SCALE MULTIPLE INPUT MULTIPLE OUTPUT COMMUNICATIONS**

Whereas, NEC Laboratories America, Inc.  
4 Independence Way, Suite 200  
Princeton, New Jersey 08540

(hereinafter called "Assignee"), desires to acquire the entire right, title, and interest in the application and the invention, and to any applications, patents and/or utility model registrations filed or obtained therefor in every Country (hereinafter called the "Designated Countries").

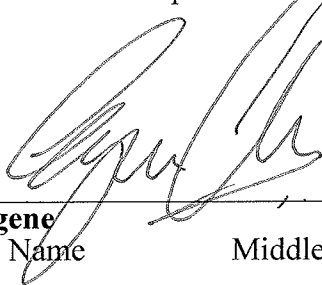
Now therefore, for valuable consideration, receipt of which is hereby acknowledged,

I/we, the above named Assignor(s), hereby sell, assign and transfer to the above named Assignee the entire right, title and interest to file and/or obtain any applications, patents and/or utility model registrations in the Designated Countries as regards the United States application and the invention disclosed therein (including rights of priority based on the United States application), and I/we will execute without further consideration all papers deemed necessary by the Assignee in connection with such applications, patents and/or utility model registrations in the Designated Countries when called upon to do so by the Assignee.

Signed and Sealed:

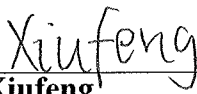
**INVENTOR 1:**

**DATED** on 06/11/2015

  
\_\_\_\_\_  
(Eugene Chai)  
First Name Middle Initial Last Name


**INVENTOR 2:**

**DATED** on 06/11/2015

  
\_\_\_\_\_  
(Xiufeng Xie)  
First Name Middle Initial Last Name

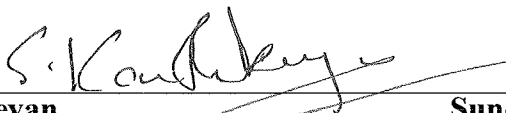
**INVENTOR 3:**

**DATED** on 6/10/2015

  
(**Mohammad** **Khojastepour**)  
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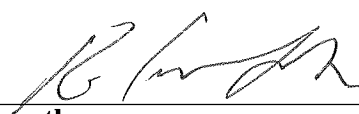
**INVENTOR 4:**

**DATED** on 6/11/2015

  
(**Karthikeyan** **Sundaresan**)  
First Name Middle Initial Last Name

**INVENTOR 5:**

**DATED** on 6/11/15

  
(**Sampath** **Rangarajan**)  
First Name Middle Initial Last Name