### PATENT ASSIGNMENT

**502447181**  08/06/2013

**SUBMISSION TYPE:** NEW ASSIGNMENT

**NATURE OF CONVEYANCE:** ASSIGNMENT

### CONVEYING PARTY DATA

<table>
<thead>
<tr>
<th>Name</th>
<th>Execution Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Madhusudan Kalluri</td>
<td>05/15/2013</td>
</tr>
<tr>
<td>Sathiyanarayanan Sampath Kumar</td>
<td>08/02/2013</td>
</tr>
<tr>
<td>Jianqing Chen</td>
<td>04/01/2013</td>
</tr>
<tr>
<td>Lei Chen</td>
<td>08/01/2013</td>
</tr>
<tr>
<td>Johnson Yen</td>
<td>08/01/2013</td>
</tr>
<tr>
<td>Sancar K. Olcay</td>
<td>06/07/2013</td>
</tr>
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### RECEIVING PARTY DATA

<table>
<thead>
<tr>
<th>Name: LSI Corporation</th>
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</thead>
<tbody>
<tr>
<td>Street Address: 1320 Ridder Park Drive</td>
</tr>
<tr>
<td>City: San Jose</td>
</tr>
<tr>
<td>State/Country: CALIFORNIA</td>
</tr>
<tr>
<td>Postal Code: 95131</td>
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</tbody>
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### PROPERTY NUMBERS Total: 1

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<th>Property Type</th>
<th>Number</th>
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<tbody>
<tr>
<td>Application Number</td>
<td>13842259</td>
</tr>
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</table>

### CORRESPONDENCE DATA

Fax Number: 6313936271  
*Correspondence will be sent via US Mail when the fax attempt is unsuccessful.*

Phone: 631-393-6270  
Email: nyoffice@rml-law.com  
Correspondent Name: Frank V. DeRosa  
Address Line 1: 48 South Service Road, Suite 100  
Address Line 2: RYAN, MASON & LEWIS, LLP  
Address Line 4: Melville, NEW YORK 11747

**ATTORNEY DOCKET NUMBER:** L12-2160US1

502447181

PATENT  
REEL: 030948 FRAME: 0346
<table>
<thead>
<tr>
<th>NAME OF SUBMITTER:</th>
<th>Frank V. DeRosa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signature:</td>
<td>/frank v. derosa/</td>
</tr>
<tr>
<td>Date:</td>
<td>08/06/2013</td>
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ASSIGNMENT AGREEMENT

For good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I/We, Madhusudan Kalluri, Sathiyanarayanan Sampath kumar, Jianqing Chen, Lei Chen, Johnson Yen and Sancar K. Olcay, a corporation of the State of Delaware, having an office at 1320 Ridder Park Drive, San Jose, CA 95131, United States of America, and its successors, assigns and legal representatives (collectively "Assignee"), the entire right, title and interest, for the United States and all foreign countries, in and to any and all inventions and improvements ("Inventions") as described and/or claimed in an application for Letters Patent of the United States of America, filed on March 15, 2013 and assigned Serial No. 13/842,259, entitled DATA SEQUENCE DETECTION IN BAND-LIMITED CHANNELS USING TWO STREAM DETECTOR ARCHITECTURE and assigned attorney docket number L12-2160US1, and in and to the application and all divisional, continuing, substitute, renewal, reissue, reexamination and all other applications for Letters Patent which have been or shall be filed in the United States and all foreign countries for the Inventions, and all the rights and privileges under any and all Letters Patent that may be granted therefore including any reissues, reexaminations and extensions thereof.

I/We agree that when requested will, without charge to Assignee but at its expense, sign all papers, take all rightful oaths, make all rightful declarations and do all acts which may be necessary, desirable or convenient for securing and maintaining patents or other forms of protection for the Inventions in any and all countries and for vesting title thereto in Assignee.

I/We authorize and empower Assignee to make applications for patent or other form of protection for the Inventions in Assignee's own name in any and all countries, and to invoke and claim for any application for patent or other form of protection for the Inventions filed by Assignee the benefit of all rights of priority provided by any and all treaties, conventions or agreements without further written or oral authorization.

I/We hereby consent that a copy of this Assignment Agreement shall be deemed a full legal and formal equivalent of any assignment, consent to file or similar document which may be required in any country for any purpose, including proof of the right of Assignee to apply for patent or other form of protection for the Inventions and to claim the aforesaid benefit of the right of priority.

IN WITNESS WHEREOF, I/we have heretounto signed my/our name(s) on the day and year set forth below.

INVENTOR

K. Madhusudan

INVENTOR

Sathiyanarayanan Sampath kumar

INVENTOR

Jianqing Chen

Date

Date

Date

INVENTOR

Lei Chen

INVENTOR

Johnson Yen

INVENTOR

Sancar K. Olcay

Date

Date

Date

Rev1: 02/08/2013

PATENT
REEL: 030948 FRAME: 0348
ASSIGNMENT AGREEMENT

For good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I/we, Madhusudan Kalluri, Sathiyanarayanan Sampath kumar, Jianqing Chen, Lei Chen, Johnson Yen and Sancar K. Olcay, a corporation of the State of Delaware, having an office at 1320 Ridder Park Drive, San Jose, CA 95131, United States of America, and its successors, assigns and legal representatives (collectively "Assignee"), the entire right, title and interest, for the United States and all foreign countries, in and to any and all inventions and improvements ("Inventions") as described and/or claimed in an application for Letters Patent of the United States of America, filed on March 15, 2013 and assigned Serial No. 13/842,259, entitled DATA SEQUENCE DETECTION IN BAND-LIMITED CHANNELS USING TWO STREAM DETECTOR ARCHITECTURE and assigned attorney docket number L12-2160US1, and in and to the application and all divisional, continuing, substitute, renewal, reissue, reexamination and all other applications for Letters Patent which have been or shall be filed in the United States and all foreign countries for the Inventions, and all the rights and privileges under any and all Letters Patent that may be granted therefore including any reissues, reexaminations and extensions thereof.

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INVENTOR

Madhusudan Kalluri

Sathiyanarayanan Sampath kumar

Lei Chen

Date 2/13/2013

INVENTOR

Jianqing Chen

Johnson Yen

Date

INVENTOR

Sancar K. Olcay

Date

Rev: 02/06/2013

PATENT
REEL: 030948 FRAME: 0349
ASSIGNMENT AGREEMENT

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INVENTOR

Madhusudan Kalluri
Date

INVENTOR

Sathiyanarayanan Sampath kumar
Date

INVENTOR

Jianqing Chen
04/01/2013

INVENTOR

INVENTOR

Lei Chen
Date

Date

INVENTOR

INVENTOR

Johnson Yen
Date

Date

INVENTOR

INVENTOR

Sancar K. Olcay
Date

Date

Rev1: 02/08/2013

PATENT
REEL: 030948 FRAME: 0350
ASSIGNMENT AGREEMENT

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INVENTOR
Madhusudan Kalluri
Sathiyarayanan Sampath kumar
Jianqing Chen
Lei Chen
Johnson Yen
Sancar K. Olcay

Date
04/01/2013

Rev1: 02/08/2013
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Madhusudan Kalluri

Sathiyarayanan Sampath kumar

Jianqing Chen

INVENTOR

Lei Chen

Johnson Yen

Sancar K. Olcay

INVENTOR

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INVENTOR INVENTOR INVENTOR

Madhusudan Kalluri Sathiyarayanan Sampath kumar Jianqin Chen

Date

INVENTOR

Lei Chen

Date

INVENTOR

Johnson Yen

Date

INVENTOR

Sancar K. Olcay

06/07/2013

Date

Rev1: 02/06/2013

PATENT
REEL: 030948 FRAME: 0353

RECORDED: 08/06/2013