

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT3047319

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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>          |
| FREDERICK A. WARE   | 03/21/2012                     |
| ELY K. TSERN  | 03/21/2012                     |
| BRIAN S. LEIBOWITZ  | 03/20/2012                     |
| WAYNE FREDERICK ELLIS   | 03/21/2012                     |
| AKASH BANSAL  | 03/25/2012                     |
| JOHN WELSFORD BROOKS  | 03/21/2012                     |
| KISHORE VEN KASAMSETTY  | 03/21/2012                     |
| <b>RECEIVING PARTY DATA</b>   |                                |
| <b>Name:</b>  | Rambus Inc.                    |
| <b>Street Address:</b>  | 1050 Enterprise Way, Suite 700 |
| <b>City:</b>  | Sunnyvale                      |
| <b>State/Country:</b>   | CALIFORNIA                     |
| <b>Postal Code:</b>   | 94089                          |
| <b>PROPERTY NUMBERS Total: 1</b>  |                                |
| <b>Property Type</b>  | <b>Number</b>                  |
| <b>Application Number:</b>  | 14386561                       |
| <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>Phone:</b>   | 408-462-8000                   |
| <b>Email:</b>   | twain@rambus.com               |
| <b>Correspondent Name:</b>  | TARISA WAIN                    |
| <b>Address Line 1:</b>  | 1050 ENTERPRISE WAY #700       |
| <b>Address Line 4:</b>  | SUNNYVALE, CALIFORNIA 94089    |
| <b>ATTORNEY DOCKET NUMBER:</b>  | RA900.PCT.US                   |
| <b>NAME OF SUBMITTER:</b>   | TARISA WAIN                    |
| <b>SIGNATURE:</b>   | /Tarisa Wain/                  |
| <b>DATE SIGNED:</b>   | 10/01/2014                     |
| <b>Total Attachments: 10</b>  |                                |

PATENT

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source=RA900.Prov1.US Assignment#page10.tif

## ASSIGNMENT

For good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and pursuant to an obligation to Rambus Inc. and/or its affiliates to assign intellectual property, and pursuant to any other applicable agreements among Rambus Inc. and its affiliates, the person(s)

**Frederick A. Ware of Los Altos Hills, California**  
**Ely K. Tsern of Los Altos, California**  
**Brian S. Leibowitz of San Francisco, California**  
**Wayne Frederick Ellis of Saratoga, California**  
**Akash Bansal of Santa Clara, California**  
**John Welsford Brooks of San Jose, California**  
**Kishore Ven Kasamsetty of Cupertino, California**

(hereinafter referred to as "INVENTOR" whether singular or plural) has sold, assigned, and transferred and/or does hereby sell, assign, and transfer to **Rambus Inc., a Delaware corporation**, having a place of business at **1050 Enterprise Way, Suite 700, Sunnyvale CA 94089** ("ASSIGNEE"), for itself and its successors, transferees, and assignees, the following:

1. The entire worldwide right, title, and interest in all inventions and improvements ("SUBJECT MATTER") that are disclosed in the following **provisional application filed under 35 U.S.C. § 111(b)** ("APPLICATION") entitled "**HIGH CAPACITY MEMORY SYSTEMS**", having:

  X   United States Patent Application No. **61/612,667**, filed on **March 19, 2012**;  
       which claims priority to U.S. Patent Application No. **[Enter APPLICATION NUMBER]** filed on **[Enter DATE]** ; or  
       Application number (                                  ), filed (                                  ), inserted by (                                  ) on (                                  ) [Where INVENTOR hereby authorizes and requests ASSIGNEE or its agents to insert here in each parentheses the application number and filing date when known, along with the signature and date of the person completing this section].

2. The entire worldwide right, title, and interest in and to: (a) the APPLICATION; (b) all applications claiming priority from the APPLICATION; (c) all provisional, utility, utility model, design, divisional, continuation, continued prosecution, continuation-in-part, substitute, renewal, and other applications related thereto which have been or may be filed in the United States or elsewhere in the world related to the SUBJECT MATTER; (d) all patents (including reissues, re-examinations, and extensions) which may be granted on the applications set forth in (a), (b), and (c) above; and (e) all right of priority in the APPLICATION and in any underlying provisional or foreign application, together with all rights to recover damages for infringement of provisional rights.

INVENTOR agrees that ASSIGNEE may apply for and receive patents for SUBJECT MATTER in ASSIGNEE's own name.

As part of this Assignment, INVENTOR further agrees to do the following, when requested, and without further consideration: (1) execute all oaths, declarations, assignments, powers of attorney,

applications, and other papers necessary or desirable to fully secure to ASSIGNEE the rights, titles and interests herein conveyed; (2) communicate to ASSIGNEE all known facts relating to the SUBJECT MATTER; and (3) generally do all lawful acts that ASSIGNEE shall consider desirable for securing, maintaining, and enforcing worldwide patent protection relating to the SUBJECT MATTER and for vesting in ASSIGNEE the rights, titles, and interests herein conveyed. INVENTOR further agrees to provide any successor, assign, or legal representative of ASSIGNEE with the benefits and assistance provided to ASSIGNEE hereunder.

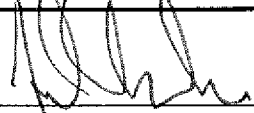
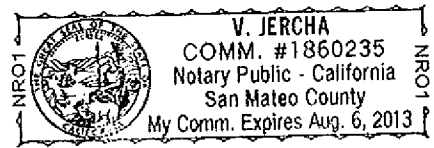
INVENTOR represents that INVENTOR has the rights, titles, and interests to convey as set forth herein, and covenants with ASSIGNEE that the INVENTOR has not made and will not hereafter make any assignment, grant, mortgage, license, or other agreement affecting the rights, titles, and interests herein conveyed.

INVENTOR grants the attorney of record the power to insert on this Assignment any further identification that may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

The terms and covenants of this Assignment shall inure to the benefit of ASSIGNEE, its successors, assigns, and legal representatives, and shall be binding upon INVENTOR, and INVENTOR's respective heirs, legal representatives and assigns.

This Assignment may be executed in one or more counterparts, each of which shall be deemed an original and all of which may be taken together as one and the same Assignment.

**Each Inventor: Please Sign and Date Below:**

|   |        |  |
|---|--------|--|
|    |        | <u>3/21/2012</u>   |
| Inventor Name: <b>Frederick A. Ware</b>   |        | Date   |
| State of California )   |        |  |
| County of Santa Clara )   |        |  |
| On <u>21 March 2012</u> before me, <u>V Jercha</u> , Notary Public,   |        |  |
| personally appeared <b>Frederick A. Ware</b> , who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument. |        |  |
| I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.  |        |  |
| WITNESS my hand and official seal.  |        |  |
| Signature: <u>V Jercha</u>  | (Seal) |  |

Ely K. Tsern  
Inventor Name: Ely K. Tsern

3/21/12  
Date

State of California )  
County of Santa Clara )

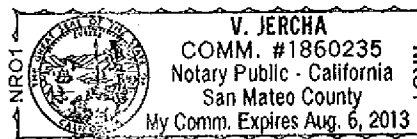
On 21 March 2012 before me, V. Jercha, Notary Public,

personally appeared Ely K. Tsern, who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature: V. Jercha (Seal)



Brian S. Leibowitz  
Inventor Name: Brian S. Leibowitz

3/20/2012  
Date

State of California )  
County of Santa Clara )

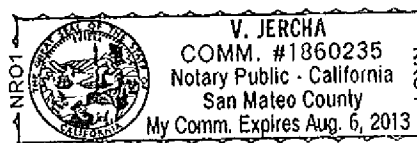
On 20 March 2012 before me, V. Jercha, Notary Public,

personally appeared Brian S. Leibowitz, who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

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WITNESS my hand and official seal.

Signature: V. Jercha (Seal)



Wayne Frederick Ellis March 21, 2012  
Inventor Name: Wayne Frederick Ellis Date

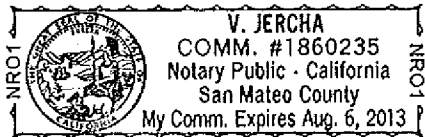
State of California )  
County of Santa Clara )

On 21 March 2012 before me, V. Jercha, Notary Public,  
personally appeared **Wayne Frederick Ellis**, who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

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WITNESS my hand and official seal.

Signature: V. Jercha (Seal)



\_\_\_\_\_  
Inventor Name: Akash Bansal Date

State of California )  
County of Santa Clara )

On \_\_\_\_\_ before me, \_\_\_\_\_, Notary Public,  
personally appeared **Akash Bansal**, who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature: \_\_\_\_\_ (Seal)

John Welsford Brooks 3/21/12  
Inventor Name: John Welsford Brooks Date

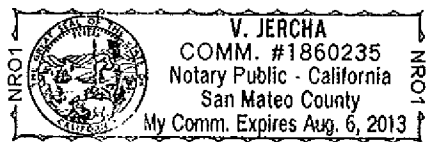
State of California )  
County of Santa Clara )

On 21 March 2012 before me, V. Jercha, Notary Public,  
personally appeared **John Welsford Brooks**, who proved to me on the basis of satisfactory evidence to be the  
person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the  
same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity  
upon behalf of which the person acted, executed the instrument.

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and correct.

WITNESS my hand and official seal.

Signature: V. Jercha (Seal)



Kishore Ven Kasamsetty March 21, 2012  
Inventor Name: Kishore Ven Kasamsetty Date

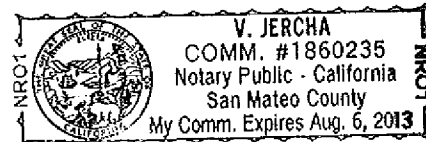
State of California )  
County of Santa Clara )

On 21 March 2012 before me, V. Jercha, Notary Public,  
personally appeared **Kishore Ven Kasamsetty**, who proved to me on the basis of satisfactory evidence to be the  
person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the  
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Signature: V. Jercha (Seal)



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\_\_\_\_\_ Application number ( \_\_\_\_\_ ), filed ( \_\_\_\_\_ ), inserted by ( \_\_\_\_\_ ) on ( \_\_\_\_\_ ) [Where INVENTOR hereby authorizes and requests ASSIGNEE or its agents to insert here in each parentheses the application number and filing date when known, along with the signature and date of the person completing this section].

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**Each Inventor: Please Sign and Date Below:**

|   |        |
|---|--------|
|   |        |
| Inventor Name: <b>Frederick A. Ware</b>   | Date   |
|   |        |
| State of California )   |        |
| County of Santa Clara )   |        |
|   |        |
| On _____ before me, _____, Notary Public,   |        |
| personally appeared <b>Frederick A. Ware</b> , who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument. |        |
| I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.  |        |
| WITNESS my hand and official seal.  |        |
|   |        |
| Signature: _____  | (Seal) |

Inventor Name: **Ely K. Tsern**

Date

State of California                    )  
County of Santa Clara                )

On \_\_\_\_\_ before me, \_\_\_\_\_, Notary Public,

personally appeared **Ely K. Tsern**, who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

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WITNESS my hand and official seal.

Signature: \_\_\_\_\_ (Seal)

Inventor Name: **Brian S. Leibowitz**

Date

State of California                    )  
County of Santa Clara                )

On \_\_\_\_\_ before me, \_\_\_\_\_, Notary Public,

personally appeared **Brian S. Leibowitz**, who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

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WITNESS my hand and official seal.

Signature: \_\_\_\_\_ (Seal)

Inventor Name: **Wayne Frederick Ellis**

Date

State of California )  
County of Santa Clara )

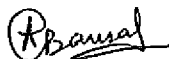
On \_\_\_\_\_ before me, \_\_\_\_\_, Notary Public,

personally appeared **Wayne Frederick Ellis**, who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

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WITNESS my hand and official seal.

Signature: \_\_\_\_\_ (Seal)



3/25/12

Inventor Name: **Akash Bansal**

Date

State of California )  
County of Santa Clara )

On \_\_\_\_\_ before me, \_\_\_\_\_, Notary Public,

personally appeared **Akash Bansal**, who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

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WITNESS my hand and official seal.

Signature: \_\_\_\_\_ (Seal)

|  |   |        |
|--|---|--------|
| Inventor Name: <b>John Welsford Brooks</b>   |   | Date   |
| State of California  | ) |        |
| County of Santa Clara  | ) |        |
| On _____ before me, _____, Notary Public,  |   |        |
| personally appeared <b>John Welsford Brooks</b> , who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument. |   |        |
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| WITNESS my hand and official seal.   |   |        |
| Signature: _____   |   | (Seal) |

|  |   |        |
|--|---|--------|
| Inventor Name: <b>Kishore Ven Kasamsetty</b>   |   | Date   |
| State of California  | ) |        |
| County of Santa Clara  | ) |        |
| On _____ before me, _____, Notary Public,  |   |        |
| personally appeared <b>Kishore Ven Kasamsetty</b> , who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument. |   |        |
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| WITNESS my hand and official seal.   |   |        |
| Signature: _____   |   | (Seal) |