

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT3595454

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
CRAIG HAMPEL	04/10/2007
MARK HOROWITZ	04/27/2007
<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: 2</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	12529323
<b>Application Number:</b>	14883916
<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>	RA490.PCT.C1.US
<b>NAME OF SUBMITTER:</b>	TARISA WAIN
<b>SIGNATURE:</b>	/Tarisa Wain/
<b>DATE SIGNED:</b>	10/30/2015
<b>Total Attachments: 4</b>	
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**JOINT TO CORPORATE ASSIGNMENT**

WHEREAS, the undersigned Inventors:

- (1) Craig Hampel, a resident of 340 Bellevue Ct, Los Altos, CA 94024 *et al 4/19/07*  
~~5927 Dunn Avenue, San Jose, California 95123~~; and
- (2) Mark Horowitz, a resident of 1309 San Mateo Drive, Menlo Park, California 94025,

have invented certain new and useful improvements in:

SYSTEM INCLUDING HIERARCHICAL MEMORY MODULES  
HAVING DIFFERENT TYPES OF INTEGRATED  
CIRCUIT MEMORY DEVICES

said application having Provisional Application Number 60/909,359 and filed on the 30<sup>th</sup> day of March, 2007.

WHEREAS Rambus Inc. (hereinafter termed "Assignee"), a corporation of the State of Delaware, having a place of business at 4440 El Camino Real, Los Altos, State of California, wishes to acquire the entire right, title and interest in and to said application and the invention disclosed therein, and in and to all embodiments of the invention, heretofore conceived, made or discovered jointly or severally by said Inventors (all collectively hereinafter termed "said invention"), and in and to any and all patents, certificates of invention and other forms of protection thereon (hereinafter termed "patents") applied for or granted in the United States and/or other countries.

NOW THEREFORE, for good and valuable consideration acknowledged by each of said Inventors to have been received in full from said Assignee:

1. Said Inventors do hereby sell, assign, transfer and convey to said Assignee, the entire right, title and interest (a) in and to said application and said invention; (b) in and to all rights to apply in any or all countries of the world for patents, certificates of inventions or other governmental grants on said invention, including the right to apply for patents pursuant to the International Convention for the Protection of Industrial Property or pursuant to any other convention, treaty, agreement or understanding; (c) in and to any and all applications filed and any and all patents, certificates of inventions or other governmental grants granted on said invention in the United States or any other country, including each and every application filed and each and every patent granted on any application which is a division, substitution, or continuation of any of said applications; (d) in and to each and every reissue or extension of any of said patents; and (e) in and to each and every patent claim resulting from a reexamination certificate for any and all of said patents.

2. Said Inventors hereby jointly and severally covenant and agree to cooperate with said Assignee to enable said Assignee to enjoy to the fullest extent the right, title and interest herein conveyed in the United States and other countries. Such cooperation by said Inventors shall include prompt production of pertinent facts and documents, giving of testimony, executing of petitions, oaths, specifications, declarations or other papers, and other assistance all to the extent deemed necessary or desirable by said Assignee (a) for perfecting in said Assignee the right, title and interest herein conveyed; (b) for complying with any duty of disclosure; (c) for prosecuting any of said applications; (d) for filing and prosecuting substitute, divisional, continuing or additional applications covering said invention; (e) for filing and prosecuting applications for reissue of any of said patents; (f) for interference or other priority proceedings involving said invention; and (g) for legal proceedings involving said invention and any applications therefor and any patents granted thereon, including without limitation opposition proceedings, cancellation proceedings, priority contests, public use proceedings, reexamination proceedings, compulsory licensing proceedings, infringement actions and court actions; provided, however, that the expense incurred by said Inventors in providing such cooperation shall be paid for by said Assignee.

3. The terms and covenants of this Assignment shall inure to the benefit of said Assignee, its successors, assigns and other legal representatives, and shall be binding upon said Inventors, their respective heirs, legal representatives and assigns.

4. Said Inventors hereby jointly and severally warrant and represent that they have not entered and will not enter into any assignment, contract, or understanding in conflict herewith.

IN WITNESS WHEREOF, the said Inventors have executed this instrument on the date of acknowledgement before the Notary Public as given below and delivered this instrument to said Assignee:

(1) Craig Hampel  
Craig Hampel

State of CALIFORNIA )

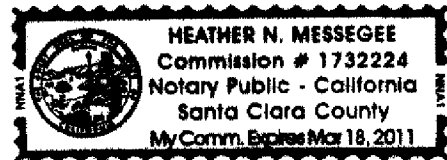
County of SANTA CLARA )

On 4/10/07 before me, HEATHER N. MESSELEE, NOTARY PUBLIC  
(name and title of officer)

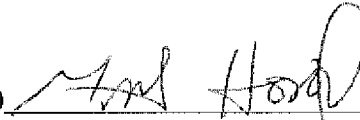
personally appeared Craig Hampel, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Signature Heather N. Messeelee



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(2)   
Mark Horowitz

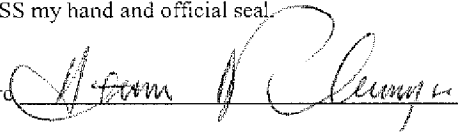
State of CALIFORNIA )

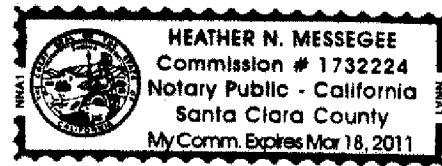
County of SANTA CLARA )

On APRIL 27th, 2007 before me, HEATHER N. MESSELEE NOTARY PUBLIC,  
(name and title of officer)

personally appeared Mark Horowitz, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Signature 



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