PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4543592

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
IAN SHAEFFER	08/20/2010
THOMAS J. GIOVANNINI	08/18/2010

RECEIVING PARTY DATA

Name:	RAMBUS INC	
Street Address:	1050 ENTERPRISE WAY #700	
City:	SUNNYVALE	
State/Country:	CALIFORNIA	
Postal Code:	ostal Code: 94089	

PROPERTY NUMBERS Total: 1

Property Type	Number	
Application Number:	15498065	

CORRESPONDENCE DATA

Fax Number:

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.

Phone: 408-462-8000

Email: tfriedman@rambus.com
Correspondent Name: TAMMY FRIEDMAN

Address Line 1: 1050 ENTERPRISE WAY #700
Address Line 4: SUNNYVALE, CALIFORNIA 94089

ATTORNEY DOCKET NUMBER:	RA764.C1.US
NAME OF SUBMITTER:	TAMMY FRIEDMAN
SIGNATURE:	/TAMMY FRIEDMAN/
DATE SIGNED:	08/09/2017

Total Attachments: 4

source=2010-08-20 Signed Assign.Dec#page1.tif source=2010-08-20 Signed Assign.Dec#page2.tif source=2010-08-20 Signed Assign.Dec#page3.tif source=2010-08-20 Signed Assign.Dec#page4.tif

PATENT 504496889 REEL: 043249 FRAME: 0661

CORPORATE ASSIGNMENT

WHEREAS, the undersigned,

Ian Shaeffer Thomas J. Giovannini 23 Jackson Street, Los Gatos, CA 95030 3614 Deedham Drive, San Jose, CA 95148

hereinafter termed "Inventor(s)", have invented certain new and useful improvements in

PROTOCOL INCLUDING A COMMAND-SPECIFIED TIMING REFERENCE SIGNAL

and having	e executed a declaration or oath for an application for a United States patent disclosing and identifying the on:
	On the, 20;
	Or
<u>X</u>	Said application having Application Number 61/366,806 and filed on 22 July 2010; and
	WHEREAS, RAMBUS INC. a corporation of the State of Delaware, having a place of business at 4440 El
Camino	Real, Los Altos, CA 94022, (hereinafter termed "Assignee"), is desirous of acquiring 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,
heretofo	pre conceived, made or discovered jointly or severally by said Inventor(s) (all collectively hereinafter termed
"said in	vention"), and in and to any and all patents, inventor's certificates and other forms of protection (hereinafter
termed	"patents") thereon granted in the United States and foreign countries.

NOW, THEREFORE, in consideration of good and valuable consideration acknowledged by said Inventor(s) to have been received in full from said Assignee:

- 1. Said Inventor(s) do hereby sell, assign, transfer and convey unto 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 for foreign patents on said invention pursuant to the International Convention for the Protection of Industrial Property or otherwise; (c) in and to any and all applications filed and any and all patents granted on said invention in the United States or any foreign country, including each and every application filed and each and every patent granted on any application which is a divisional, substitution, continuation, or continuation-in-part of any of said applications; and (d) in and to each and every reissue or extensions of any of said patents.
- 2. Said Inventor(s) 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 foreign countries. Such cooperation by said Inventor(s) shall include prompt production of pertinent facts and documents, giving of testimony, execution 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 prosecuting any of said applications; (c) for filing and prosecuting substitute, divisional, continuing or additional applications covering said invention; (d) for filing and prosecuting applications for reissuance of any said patents; (e) for interference or other priority proceedings involving said invention; and (f) for legal proceedings involving said invention and any applications therefor and any patents granted thereon, including without limitation reissues and reexaminations, opposition proceedings, cancellation proceedings, priority contests, public use proceedings, infringement actions and court actions; provided, however, that the expense incurred by said

1

Inventor(s) in providing such cooperation shall be paid for by said Assignee.

- 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 Inventor(s), their respective heirs, legal representatives and assigns.
- Said Inventor(s) hereby jointly and severally warrant and represent that they have not entered and will 4. not enter into any assignment, contract, or understanding in conflict herewith.

IN WITNESS WHEREOF, said Inventors have executed and delivered this instrument to said Assignee as of the dates written below.

Ian Shaeffer

DOBOTHY L. LEVIN Commission # 1835908 Notary Public - California Sama Clara County My Comm. Expires Mar 10, 2013 State of Country of State Country of State of Country of State Country

On 8-20-10, before me, DOMN Hay C. Levins Noting Audic personally appeared Ian Shaeffer,

who 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.

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 of Notary Public)

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America America		
Thomas J. Giovannini	On /// // // Obefore me, // Obefore	iovannini.
8/18/2010 Date	who proved to me on the basis of person(s) whose name(s) is/are su and acknowledged to me that he his/her/their authorized capacity signature(s) on the instrument the behalf of which the person(s) acts	bscribed to the within instrument e/she/they executed the same in (ies), and that by his/hex/their the person(s), or the entity upon
	I certify under PENALTY OF P State of California that the forego	
DOROTHY L LEVIN Commission # 1635908	WITNESS my hand and official seal.	
Commission # 1835908 Notary Public - California 2 Santa Glara County My Comm. Expires Mar 10, 2013		l.
*ytroto-io-in-thallaftalladio-in-lindintin-to-in-materialist	(Signature of Notary Public)	
	State of)
•	County of	ý
	On before me,	,
	personally appeared, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument	
Date	his/her/their authorized capacity	e/she/they executed the same in y(ies), and that by his/her/their he person(s), or the entity upon led, executed the instrument.
		PERJURY under the laws of the bing paragraph is true and correct.
	WITNESS my hand and official scal.	
	(Signature of Notary Public)	

Box No. VIII (iv) DECLARATION: INVENTORSHIP (only for the purposes of the designation of the United States of America) The declaration must conform to the following standardized wording provided for in Section 214; see Notes to Boxes Nos. VIII, VIII (i) to (v) (in general) and the specific Notes to Box No. VIII (iv). If this Box is not used, this sheet should not be included in the request.

Declaration of inventorship (Rules 4.17(iv) and 51 bis.1(a) (iv)) for the purposes of the designation of the United States of America:

I hereby declare that I believe I am the original, first and sole (if only one inventor is listed below) or joint (if more than one inventor is listed below) inventor of the subject matter which is claimed and for which a patent is sought.

This declaration is directed to the international application of which it forms a part (if filing declaration with application).

I hereby declare that my residence, mailing address, and citizenship are as stated next to my name. I hereby state that I have reviewed and understand the contents of the above-identified international application, including the claims of said application. I have identified in the request of said application, in compliance with PCT Rule 4.10, any claim to foreign priority, and I have identified below, under the heading "Prior Applications," by application number, country or Member of the World Trade Organization, day, month and year of filing, any application for a patent or inventor's certificate filed in a country other than the United States of America, including any PCT international application designating at least one country other than the United States of America, having a filing date before that of the application on which foreign priority is claimed.

Prior Applications: US Provisional serial Number: 61/366,806 Date Filed: 22 July 2018

I hereby acknowledge the duty to disclose information that is known by me to be material to patentability as defined by 37 C.F.R. § 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the PCT international filing date of the continuation-in-part application.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Residence: 23 Jackson Street, Los Gatos, CA 95030 (city and either US state, if applicable, or country)

Mailing Address: Same

Inventor's Signature:

(The signature must be that of the inventor, not that of the agent)

Name: Thomas J. Giovannini

Citizenship: United States

Residence: 3614 Deedham Drive, San Jose, CA 95148 (city and either US state, if applicable, or country)

Mailing Address: Same

Name: Ian Shaeffer

Citizenship: United States

Inventor's Signature:
(The signature must be that of the inventor, not that of the agent)

Date: 8/18/2010

This declaration is continued on the following sheet, "Continuation of Box No. VIII (iv)". [

Form PCT/RO/101 (declaration sheet (iv)) (April 2006) See Notes to the request form

RECORDED: 08/09/2017