## 502027394 08/16/2012

## PATENT ASSIGNMENT

Electronic Version v1.1 Stylesheet Version v1.1

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
John Cronan Elbe	08/20/2010

### **RECEIVING PARTY DATA**

Name:	Rambus Inc.
Street Address:	1050 Enterprise Way, Suite 700
City:	Sunnyvale
State/Country:	CALIFORNIA
Postal Code:	94089

### PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	12809000

#### **CORRESPONDENCE DATA**

**Fax Number**: 4088773828 **Phone**: 4086556375

Email: marc@schuylerlawgroup.com

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent

via US Mail.

Correspondent Name: Marc Schuyler Address Line 1: PO Box 2535

Address Line 4: Saratoga, CALIFORNIA 95070

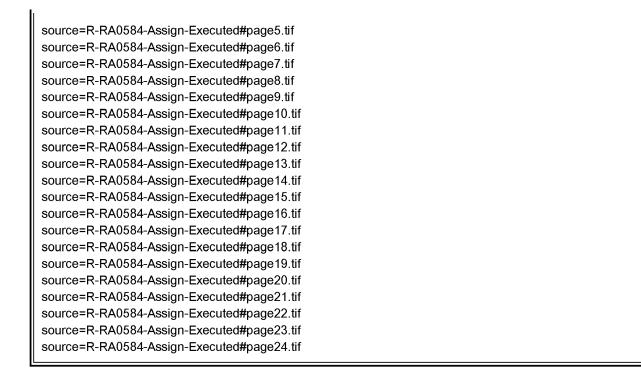
ATTORNEY DOCKET NUMBER:	2012033 / RA584PCTUS
NAME OF SUBMITTER:	Marc Schuyler, Reg. No. 35675

Total Attachments: 24

source=R-RA0584-Assign-Executed#page1.tif source=R-RA0584-Assign-Executed#page2.tif source=R-RA0584-Assign-Executed#page3.tif source=R-RA0584-Assign-Executed#page4.tif

FATENT 502027394 REEL: 028798 FRAME: 0468

OP \$40.00 12809000



PATENT REEL: 028798 FRAME: 0469

#### CORPORATE ASSIGNMENT

WHEREAS, the undersigned,

Kyung Suk Oh 10219 Palo Vista Road, Cupertino, CA 95014 John Wilson 7620 Elliott Drive, Raleigh, NC 27613 Frederick A. Ware 13961 Fremont Pines Lane, Los Altos Hills, CA 94022 2325 Eldger Drive, Plano, TX 75025 WooPoung Kim 8491 Sand Dollar Drive, Windsor, CO 80528 Jade M. Kizer Brian S. Leibowitz 425 14th Street #4, San Francisco, CA 94013 Lei Luo 1048 Bellenden Drive, Durham, NC 27713 John Cronan Eble 205 Wild Turkey Trail, Chapel Hill, NC 27516

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

#### ASYMMETRIC COMMUNICATION ON SHARED LINKS

and hav		declaration or oath fo	or an application fo	r a United S	States patent	disclosing and	d identifying the	
	On the	day of		_, 20;				
	Or							
<u>X</u>	Said applicat	ion having Applicati	on Number <u>12/809</u>	9 <u>,000</u> ar	nd filed on_	17 June 2010	; and	
Camino interest heretofo "said in	Real, Los Al in and to said ore conceived vention"), and	RAMBUS INC. a cotos, CA 94022, (here application and the made or discovered in and to any and alreon granted in the U	inafter termed "As invention disclosed jointly or severally Il patents, inventor	signee"), is I therein, an y by said In s certificate	desirous of ad in and to a ventor(s) (al es and other)	acquiring the e all embodimen I collectively b	entire right, title a ts of the invention nereinafter termed	n, i

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 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;

1

- (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; (c) 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 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 warrant and represent that they have not entered and will not enter into any assignment, contract, or understanding in conflict herewith.

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

Kyung Suk Oh

Date

DOROTHY L. LEVIN Commission # 1835908 Notary Public - California Santa Clara County

ly Comm. Expires Mar 10, 2013

State of CACIFORNICE
County of SANTA CLARAS

On 7-13-2010, before me, Drodly Clevin Working Rettice personally appeared Kyung Suk Oh,

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)

	State of	)		
Charles and the same	County of	,		
John Wilson  July 19, 2010  Date	person(s) whose name(s) is/ and acknowledged to me to his/her/their authorized ca signature(s) on the instrum			
		OF PERJURY under the laws of the foregoing paragraph is true and correct.		
	WITNESS my hand and of	ficial seal.		
	(Signature of Notary Public	:)		
	State of	)		
	County of	)		
Frederick A. Ware  Date	person(s) whose name(s) is/ and acknowledged to me this/her/their authorized casignature(s) on the instrument	ick A. Ware, passis of satisfactory evidence to be the are subscribed to the within instrument that he/she/they executed the same in pacity(ies), and that by his/her/their nent the person(s), or the entity upon 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 off	WITNESS my hand and official seal.		
	(Signature of Notary Public	<del>)</del>		

	State of	)		
	County of	)		
WooPoung Kim	person(s) whose name(s) is/a			
Date	his/her/their authorized cap- signature(s) on the instrume	acity(ies), and that by his/her/their ont the person(s), or the entity upon 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 office	cial seal.		
	(Signature of Notary Public)			
	State of	)		
	County of	)		
Jade M. Kizer  Date	person(s) whose name(s) is/a and acknowledged to me that his/her/their authorized capa			
	behalf of which the person(s)	acted, executed the instrument.		
		OF PERJURY under the laws of the regoing paragraph is true and correct.		
	WITNESS my hand and office	cial seal.		
	(Signature of Notary Public)			

	State of	)		
	County of	)		
Brian S. Leibowitz	personally appeared Brian s who proved to me on the b person(s) whose name(s) is/	On, before me,, personally appeared Brian S. Leibowitz, 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		
Date	his/her/their authorized cay signature(s) on the instrum	pacity(ies), and that by his/her/their ent the person(s), or the entity upon 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 off	ñcial seal.		
	(Signature of Notary Public	)		
	State of	)		
Lei Luo	County of On , before me	)		
Date	personally appeared Lei Luc who proved to me on the ba person(s) whose name(s) is/s and acknowledged to me th his/her/their authorized cap signature(s) on the instrument			
	I certify under PENALTY	OF PERJURY under the laws of the pregoing paragraph is true and correct.		
	WITNESS my hand and off	ĭcial seal.		
	(Signature of Notary Public	)		

5

	State of	)		
	County of	)		
John Cronan Eble	On, before me,, personally appeared John Cronan Eble, 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			
Date	his/her/their authorized cap signature(s) on the instrume	pacity(ies), and that by his/her/their ent the person(s), or the entity upon s) acted, executed the instrument.		
	•	OF PERJURY under the laws of the pregoing paragraph is true and correct.		
	WITNESS my hand and off	icial seal.		
	(Signature of Notary Public	)		

#### CORPORATE ASSIGNMENT

WHEREAS, the undersigned,

7620 Elliott Drive, Raleigh, NC 27613

10219 Palo Vista Road, Cupertino, CA 95014

13961 Fremont Pines Lane, Los Altos Hills, CA 94022

Kyung Suk Oh

Frederick A. Ware

John Wilson

i reaction in the	15701 Tremont I med Bane, Bos I mos, CIT 7 1022
WooPoung Kim	2325 Eldger Drive, Plano, TX 75025
Jade M. Kizer	8491 Sand Dollar Drive, Windsor, CO 80528
Brian S. Leibowitz	425 14 <sup>th</sup> Street #4, San Francisco, CA 94013
Lei Luo	1048 Bellenden Drive, Durham, NC 27713
John Cronan Eble	205 Wild Turkey Trail, Chapel Hill, NC 27516
hereinafter termed "Inventor(s	s)", have invented certain new and useful improvements in
	ASYMMETRIC COMMUNICATION ON SHARED LINKS
and have executed a declaration invention:	on or oath for an application for a United States patent disclosing and identifying the
On the day of _	
Or	
X Said application having	ng Application Number 12/809,000 and filed on 17 June 2010; and
WHEREAS, RAMBU	JS INC. a corporation of the State of <u>Delaware</u> , 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 applicat	ion and the invention disclosed therein, and in and to all embodiments of the invention,
	discovered jointly or severally by said Inventor(s) (all collectively hereinafter termed
• • • • • • • • • • • • • • • • • • •	o any and all patents, inventor's certificates and other forms of protection (hereinafter
termed "patents") thereon gran	nted 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	

2. Said Inventor(s) hereby 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;

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.

Said Inventor(s) do hereby sell, assign, transfer and convey unto said Assignee the entire right, title and

PATENT REEL: 028798 FRAME: 0476

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

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

	State of	)	
	County of	)	
Kyung Suk Oh	On, before me,, personally appeared Kyung Suk Oh, 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		
Date	signature(s) on the instrum	ent the person(s), or the entity upon 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 off	īcial seal.	
	(Signature of Notary Public	)	

	State of
	County of )
John Wilson	On, before me,, personally appeared John Wilson, 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
Date	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)
1,000	State of CALIFORNICE ) County of Structure Clause )
Frederick A/Ware	On 7-12019 before me, Denothing L. Levine Mothers Relocation personally appeared Frederick A. Ware, 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
Date	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.
DOROTHY L. LEVIN Commission # 1835908	I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.
Notary Public - California Santa Clara County	WITNESS my hand and official seal.
My Comm. Expires Mar 10, 2013	(Signature of Notary Public)

D&An	State of TX	)
- Op I'm	County of Dallas	)
WooPoung Kim	On July 19,2019 before me,	Ahple Taray
01/19/2010 Date	person(s) whose name(s) is are and acknowledged to me that his/her/their authorized capac	s of satisfactory evidence to be the subscribed to the within instrument he she/they executed the same inity(ies), and that by his her/their the person(s), or the entity upon
AHPLE TARDY Notary Public, State of Texas My Commission Exp. 01-05-2013	I certify under PENALTY OF State of California that the fore WITNESS my hand and official (Signature of Notary Public)	PERJURY under the laws of the going paragraph is true and correct al seal.
	State of	)
	County of	)
Jade M. Kizer	person(s) whose name(s) is/are	izer, of satisfactory evidence to be the subscribed to the within instrument he/she/they executed the same in
Date	his/her/their authorized capaci	ty(ies), and that by his/her/their the person(s), or the entity upon
		PERJURY under the laws of the going paragraph is true and correct.
	WITNESS my hand and officia	l seal.
	(Signature of Notary Public)	

	State of	)
	County of	)
Brian S. Leibowitz	On, before me,, personally appeared <u>Brian S. Leibowitz</u> , 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	
Date	signature(s) on the instrum	apacity(ies), and that by his/her/their nent the person(s), or the entity upon (s) acted, executed the instrument.
		OF PERJURY under the laws of the foregoing paragraph is true and correct.
	WITNESS my hand and of	ficial seal.
	(Signature of Notary Public	2)
	State of County of	)
Lei Luo  Date	On, before me personally appeared Lei Lu who proved to me on the beginning person(s) whose name(s) is and acknowledged to me this/her/their authorized casignature(s) on the instrumbehalf of which the personal	
		foregoing paragraph is true and correct.
	(Signature of Notary Public	

5

	State of	)
	County of	)
John Cronan Eble	person(s) whose name(s) is/a	
Date	his/her/their authorized cap signature(s) on the instrume	pacity(ies), and that by his/her/their ent the person(s), or the entity upon s) acted, executed the instrument.
	•	OF PERJURY under the laws of the pregoing paragraph is true and correct.
	WITNESS my hand and official seal.	
	(Signature of Notary Public)	)

## CORPORATE ASSIGNMENT

WHEREAS, the undersigned,

10219 Palo Vista Road, Cupertino, CA 95014 7620 Elliott Drive, Raleigh, NC 27613

13961 Fremont Pines Lane, Los Altos Hills, CA 94022

Kyung Suk Oh

Frederick A. Ware

every reissue or extensions of any of said patents.

John Wilson

WooPoung Kim	2325 Eldger Drive, Plano, TX 75025	
Jade M. Kizer	8491 Sand Dollar Drive, Windsor, CO 80528	
Brian S. Leibowitz	425 14 <sup>th</sup> Street #4, San Francisco, CA 94013	
Lei Luo	1048 Bellenden Drive, Durham, NC 27713	
John Cronan Eble	205 Wild Turkey Trail, Chapel Hill, NC 27516	
hereinafter termed "Inventor(s)",	have invented certain new and useful improvements in	
	ASYMMETRIC COMMUNICATION ON SHARED LINKS	
and have executed a declaration invention:	or oath for an application for a United States patent disclosing and identifying the	
On the day of	, 20;	
Or		
X Said application having	Application Number 12/809,000 and filed on 17 June 2010; and	
Camino Real, Los Altos, CA 940 interest in and to said application heretofore conceived, made or di "said invention"), and in and to a	INC. a corporation of the State of <u>Delaware</u> , having a place of business at 4440 El 022, (hereinafter termed "Assignee"), is desirous of acquiring the entire right, title and and the invention disclosed therein, and in and to all embodiments of the invention, scovered jointly or severally by said Inventor(s) (all collectively hereinafter termed my and all patents, inventor's certificates and other forms of protection (hereinafter d in the United States and foreign countries.	
NOW, THEREFORE, in have been received in full from s	a consideration of good and valuable consideration acknowledged by said Inventor(s) to aid Assignee:	
	do hereby sell, assign, transfer and convey unto said Assignee the entire right, title and tion and said invention; (b) in and to all rights to apply for foreign patents on said	

2. Said Inventor(s) hereby 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;

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

PATENT REEL: 028798 FRAME: 0482

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

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

	State of	)	
	County of	)	
Kyung Suk Oh	On, before me,		
Date	signature(s) on the instrum	ent the person(s), or the entity upon s) acted, executed the instrument.	
	——————————————————————————————————————	OF PERJURY under the laws of the oregoing paragraph is true and correct.	
	WITNESS my hand and off	icial seal.	
	(Signature of Notary Public	)	

	State of	)
	County of	)
John Wilson	On, before me,, personally appeared John Wilson, 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	
Date	signature(s) on the instrume	ent the person(s), or the entity upon ) acted, executed the instrument.
	•	OF PERJURY under the laws of the regoing paragraph is true and correct.
	WITNESS my hand and office	cial seal.
	(Signature of Notary Public)	
	State of	)
	County of	)
Frederick A. Ware	person(s) whose name(s) is/a	ck A. Ware, sis of satisfactory evidence to be the re subscribed to the within instrument at he/she/they executed the same in
Date	signature(s) on the instrume	acity(ies), and that by his/her/their nt the person(s), or the entity upon acted, executed the instrument.
		OF PERJURY under the laws of the regoing paragraph is true and correct.
	WITNESS my hand and office	cial seal.
	(Signature of Notary Public)	

	State of	)
	County of	)
WooPoung Kim	On, before me,	
Date	his/her/their authorized co signature(s) on the instrur	apacity(ies), and that by his/her/their ment the person(s), or the entity upon (s) acted, executed the instrument.
	I certify under PENALTY State of California that the	OF PERJURY under the laws of the foregoing paragraph is true and correct.
	WITNESS my hand and of	fficial seal.
	(Signature of Notary Public	c)
7 19n0.	State of  County of	) ) )
Jagle M. Kizer		
July 22, 2010  Date	and acknowledged to me this/her/their authorized casignature(s) on the instrum	that he/she/they executed the same in apacity(ies), and that by his/her/their ment the person(s), or the entity upon (s) acted, executed the instrument.
		OF PERJURY under the laws of the foregoing paragraph is true and correct.
	WITNESS my hand and of	ficial seal.
	(Signature of Notary Public	2)

	State of CALIFORNICO )  County of South CLARA )
Min / / Lat	
Brian S. Leibowitz	On 7-9-2010 before me, Deney Hay C. Lein, Nothing Public personally appeared Brian S. Leibowitz,
9 July 2010 Date	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.
DOROTHY L. LEVIN Commission # 1835908 Notary Public - California Santa Clara County	WITNESS my hand and official seal.
My Comm. Expires Mar 10, 2013	(Signature of Notary Public)
	State of ) County of )
Lei Luo	On, before me,,
	personally appeared <u>Lei Luo</u> , 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
Date	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)

5

	State of	)
	County of	)
John Cronan Eble	person(s) whose name(s) is/a	
Date	his/her/their authorized cap signature(s) on the instrume	pacity(ies), and that by his/her/their ent the person(s), or the entity upon s) acted, executed the instrument.
		OF PERJURY under the laws of the pregoing paragraph is true and correct.
	WITNESS my hand and offi	icial seal.
	(Signature of Notary Public)	)

#### CORPORATE ASSIGNMENT

WHEREAS, the undersigned,

Kyung Suk Oh	10219 Palo Vista Road, Cupertino, CA 95014
John Wilson	7620 Elliott Drive, Raleigh, NC 27613
Frederick A. Ware	13961 Fremont Pines Lane, Los Altos Hills, CA 94022
WooPoung Kim	2325 Eldger Drive, Plano, TX 75025
Jade M. Kizer	8491 Sand Dollar Drive, Windsor, CO 80528
Brian S. Leibowitz	425 14 <sup>th</sup> Street #4, San Francisco, CA 94013
Lei Luo	1048 Bellenden Drive, Durham, NC 27713
John Cronan Eble	205 Wild Turkey Trail, Chapel Hill, NC 27516
	ASYMMETRIC COMMUNICATION ON SHARED LINKS  r oath for an application for a United States patent disclosing and identifying the
On the day of	
Or	
X Said application having A	pplication Number 12/809,000 and filed on 17 June 2010; and
	NC. a corporation of the State of Delaware, having a place of business at 4440 El

WHEREAS, <u>RAMBUS INC.</u> a corporation of the State of <u>Delaware</u>, 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, heretofore conceived, made or discovered jointly or severally by said Inventor(s) (all collectively hereinafter termed "said invention"), 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 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;

PATENT REEL: 028798 FRAME: 0488

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

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

	State of	)
	County of	)
Kyung Suk Oh	On, before me,, personally appeared Kyung Suk Oh, 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	
Date	signature(s) on the instrumen	nt the person(s), or the entity upon 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)	

	State of	)
	County of	)
John Wilson	On, before me,, personally appeared John Wilson, 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	
Date	signature(s) on the instrume	ont the person(s), or the entity upon acted, executed the instrument.
	•	OF PERJURY under the laws of the regoing paragraph is true and correct.
	WITNESS my hand and office	cial seal.
	(Signature of Notary Public)	
	State of	)
	County of	)
Frederick A. Ware	On, before me,, personally appeared Frederick A. Ware, 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	
Date	signature(s) on the instrume	acity(ies), and that by his/her/their nt the person(s), or the entity upon acted, executed the instrument.
		OF PERJURY under the laws of the regoing paragraph is true and correct.
	WITNESS my hand and office	cial seal.
	(Signature of Notary Public)	

	State of	)	
	County of	)	
WooPoung Kim	On, before me,, personally appeared WooPoung Kim, 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		
Date	his/her/their authorized cap signature(s) on the instrume	eacity(ies), and that by his/her/their ent the person(s), or the entity upon e) acted, executed the instrument.	
	· · · · · · · · · · · · · · · · · · ·	OF PERJURY under the laws of the oregoing paragraph is true and correct.	
	WITNESS my hand and offi	icial seal.	
	(Signature of Notary Public)	)	
	State of  County of	) )	
Jade M. Kizer  Date	On, before me,, personally appeared Jade M. Kizer, 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	of person(s), of the entity upon a cted, executed the instrument.  OF PERJURY under the laws of the	
	State of California that the fo	regoing paragraph is true and correct.	
	WITNESS my hand and offi	ciai seai.	
	(Signature of Notary Public)		

	State of )
	County of )
Brian S. Leibowitz	On, before me,, personally appeared <u>Brian S. Leibowitz</u> , 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
Date	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)
	State of ) County of )
Lei Luo Date	On, before me,, personally appeared <u>Lei Luo</u> , 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)

JOW Stoney Fisher

Oate

State of NOrth Carolina

county of Ovange

CHERYL D GALLAND NOTARY PUBLIC ORANGE COUNTY, NC My Commission Expires 6-20-2015

On 8 10 10, before me, Chery D Galand personally appeared John Cronan Eble,

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)