

## PATENT ASSIGNMENT

Electronic Version v1.1  
 Stylesheet Version v1.1

SUBMISSION TYPE:	NEW ASSIGNMENT												
NATURE OF CONVEYANCE:	ASSIGNMENT												
CONVEYING PARTY DATA													
<table border="1"> <thead> <tr> <th>Name</th> <th>Execution Date</th> </tr> </thead> <tbody> <tr> <td>Amir Amirkhany</td> <td>02/10/2012</td> </tr> <tr> <td>Chaofeng Huang</td> <td>02/10/2012</td> </tr> <tr> <td>Kambiz Kaviani</td> <td>02/10/2012</td> </tr> <tr> <td>Wayne D. Dettloff</td> <td>02/10/2012</td> </tr> <tr> <td>Kun-Yung (Ken) Chang</td> <td>02/12/2012</td> </tr> </tbody> </table>		Name	Execution Date	Amir Amirkhany	02/10/2012	Chaofeng Huang	02/10/2012	Kambiz Kaviani	02/10/2012	Wayne D. Dettloff	02/10/2012	Kun-Yung (Ken) Chang	02/12/2012
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Wayne D. Dettloff	02/10/2012												
Kun-Yung (Ken) Chang	02/12/2012												
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													
<table border="1"> <thead> <tr> <th>Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>PCT Number:</td> <td>US1048826</td> </tr> </tbody> </table>		Property Type	Number	PCT Number:	US1048826								
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PCT Number:	US1048826												
CORRESPONDENCE DATA													
Fax Number:	(408)716-7121												
Email:	intake@shemwellaw.com												
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent via US Mail.</i>													
Correspondent Name:	Charles Shemwell												
Address Line 1:	P.O. Box 70307												
Address Line 4:	Sunnyvale, CALIFORNIA 94086												
ATTORNEY DOCKET NUMBER:	RA731.F2.PCT												
NAME OF SUBMITTER:	Charles E. Shemwell, Reg. No. 40,171												
Total Attachments: 12													

OP \$40.00 US1048826

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source=RA731.F2.PCT Assignment executed#page12.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)

**Amir Amirkhany of Sunnyvale, California**  
**Chaofeng Huang of San Jose, California**  
**Kambiz Kaviani of San Francisco, California**  
**Wayne D. Dettloff of Cary, North Carolina**  
**Kun-Yung (Ken) Chang of Los Altos, 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 **international application filed according to the Patent Cooperation Treaty (PCT)** ("APPLICATION") entitled "**HIGH RESOLUTION OUTPUT DRIVER**", having:

  X   PCT Patent Application No. **PCT/US2010/048826**, filed on **September 14, 2010**;

  X   which claims priority to U.S. Patent Application No. **61/242,319** filed on **September 14, 2009** ; 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:**

[Signature] \_\_\_\_\_ 2/10/12  
Inventor Name: Amir Amirkhany Date

State of California )  
County of Santa Clara )

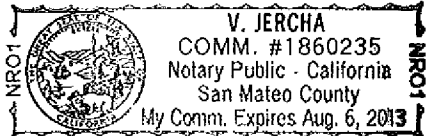
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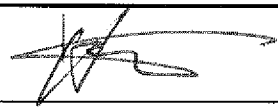
personally appeared Amir Amirkhany, who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity 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: [Signature] (Seal)




  
 Inventor Name: **Chaofeng Huang** Date 2/10/2012

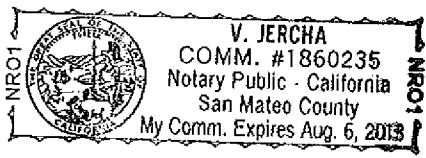
State of California )  
 County of Santa Clara )


On 10 Feb 2012 before me, V. Jercha, Notary Public,  
 personally appeared **Chaofeng Huang**, 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 executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

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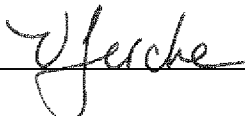
  
 Inventor Name: **Kambiz Kaviani** Date 2-10-2012

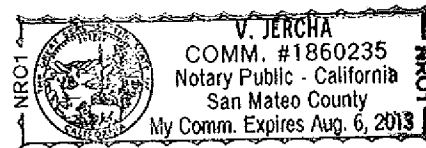
State of California )  
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 personally appeared **Kambiz Kaviani**, who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized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

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Signature:  (Seal)



\_\_\_\_\_  
Inventor Name: **Wayne D. Dettloff** Date \_\_\_\_\_

State of North Carolina )  
County of Orange )

On \_\_\_\_\_ before me, \_\_\_\_\_, Notary Public,  
personally appeared **Wayne D. Dettloff**, 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 executed the same in his authorized capacity, and that by his 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 North Carolina that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

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

\_\_\_\_\_  
Inventor Name: **Kun-Yung (Ken) Chang** Date \_\_\_\_\_

State of )  
County of )

On \_\_\_\_\_ before me, \_\_\_\_\_, Notary Public,  
personally appeared **Kun-Yung (Ken) Chang**, 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 executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

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Inventor Name: **Chaofeng Huang**

Date

State of California )  
County of Santa Clara )

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

personally appeared **Chaofeng Huang**, 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 executed the same in his authorized capacity, and that by his 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: **Kambiz Kaviani**

Date

State of California )  
County of Santa Clara )

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

_____ Inventor Name: <b>Amir Amirkhany</b>		_____ Date
State of California	)	
County of Santa Clara	)	
On _____ before me, _____, Notary Public,		
personally appeared <b>Amir Amirkhany</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 executed the same in his authorized capacity, and that by his 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: **Chaofeng Huang**

Date

State of California )  
County of Santa Clara )

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

personally appeared **Chaofeng Huang**, 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 executed the same in his authorized capacity, and that by his 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: **Kambiz Kaviani**

Date

State of California )  
County of Santa Clara )

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WITNESS my hand and official seal.

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

Inventor Name: **Wayne D. Dettloff**

Date

State of North Carolina )  
County of Orange )

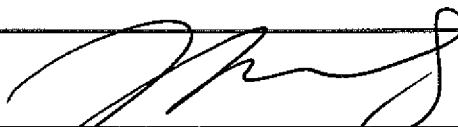
On \_\_\_\_\_ before me, \_\_\_\_\_, Notary Public,

personally appeared **Wayne D. Dettloff**, 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 executed the same in his authorized capacity, and that by his 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 North Carolina that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

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

  
Inventor Name: **Kun-Yung (Ken) Chang**

Date

**2/12/2012**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ )

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

personally appeared **Kun-Yung (Ken) Chang**, 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 executed the same in his authorized capacity, and that by his 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)