

## PATENT ASSIGNMENT COVER SHEET

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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>       |
| IAN P. SHAEFFER   | 10/13/2005                  |
| BRET STOTT  | 10/13/2005                  |
| BENEDICT C. LAU   | 10/13/2005                  |
| <b>RECEIVING PARTY DATA</b>   |                             |
| <b>Name:</b>  | RAMBUS INC                  |
| <b>Street Address:</b>  | 1050 ENTERPRISE WAY #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>  | 15626097                    |
| <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> |                             |
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| <b>Address Line 1:</b>  | 1050 ENTERPRISE WAY #700    |
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| <b>ATTORNEY DOCKET NUMBER:</b>  | RA452.D1C1C1C1C1.E3         |
| <b>NAME OF SUBMITTER:</b>   | TAMMY FRIEDMAN              |
| <b>SIGNATURE:</b>   | /TAMMY FRIEDMAN/            |
| <b>DATE SIGNED:</b>   | 05/10/2018                  |
| <b>Total Attachments: 4</b>   |                             |
| source=RA452.P.US Assignment#page1.tif  |                             |
| source=RA452.P.US Assignment#page2.tif  |                             |
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ASSIGNMENT

In consideration of good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I/We, Ian P. Shaeffer, Bret Stott and Benedict C. Lau, the undersigned Assignor(s), believing to be the original, first and sole or joint inventor(s) of any and all new and useful improvements disclosed in the application for the United States patent entitled

MEMORY CONTROLLER WITH STAGGERED REQUEST SIGNAL OUTPUT

hereby sell, assign, and transfer to Rambus Inc., a Delaware Corporation having a principal place of business at 4440 El Camino Real, Los Altos, California 94022, ("Assignee"), and its successors, assigns, and legal representatives, the entire right, title, and interest for the United States and all foreign countries, in and to any and all improvements that are disclosed in the same patent application

\_\_\_\_\_ which was filed with the United States Patent and Trademark Office on \_\_\_\_\_ and which was assigned Application Number \_\_\_\_\_.

X which has been executed by the undersigned prior hereto or concurrently herewith on the dates indicated below.

The undersigned further sell, assign, and transfer to Assignee said application and all divisional applications, continuation applications, continued prosecution applications, continuation-in-part applications, substitute applications, renewal applications, reissue applications, reexaminations, extensions, and all other patent applications, utility models and the like that have been or shall be filed in the United States and all foreign countries on any of said improvements; and in and to all original patents, reissued patents, reexamination certificates, and extensions, that have been or shall be issued in the United States and all foreign countries on said improvements; and in and to all rights of priority resulting from the filing of said United States application; and the right to file foreign applications directly in the name of the Assignee and to claim for any such foreign applications any priority rights to which such applications are entitled under international conventions, treaties or otherwise.

The undersigned further agree that said Assignee may apply for and receive a patent or patents for said improvements in its own name; and that, when requested, without charge to, but at the expense of, said Assignee, its successors, assigns, and legal representatives, to carry out in good faith the intent and purpose of this Assignment, the undersigned will execute all divisional applications, continuation applications, continued prosecution applications, continuation-in-part applications, substitute applications, renewal applications, reissue applications, reexaminations, extensions and all other patent applications on any and all said improvements; execute all rightful oaths, assignments, powers of attorney, and other papers; communicate to said Assignee, its successors, assigns, and representatives all facts known to the undersigned relating to said improvements and the history thereof; and generally assist said Assignee, its successors, assigns, or representatives in securing and maintaining proper patent protection for said improvements and for vesting title to said improvements, and all applications for patents and all patents on said improvements, in said Assignee, its successors, assigns, and legal representatives.

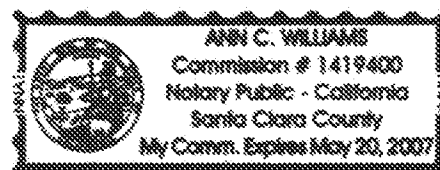
The undersigned covenant with said Assignee, its successors, assigns, and legal representatives that no assignment, grant, mortgage, license, or other agreement affecting the rights and property herein conveyed has been made to others by the undersigned, and that full right to convey the same as herein expressed is possessed by the undersigned.

The undersigned hereby authorize and request the Officials of the United States Patent and Trademark Office and any and all foreign Patent Offices to issue any and all Letters Patents, when granted, to said Assignee as the assignee of the entire right, title and interest in and to the same, for the sole use of said Assignee, its successors and assigns, to the full end of the term for which said Letters Patents may be granted.


The undersigned hereby grant to Charles E. Shemwell (Reg. No. 40,171), located at 4880 Stevens Creek Blvd., Suite 201, San Jose, California 95129-1034, the power to insert on this document any further identification necessary or desirable to comply with the rules of the United States Patent and Trademark Office for recordation of this Assignment.

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

|  |   |
|--|---|
| <p><u>10/13</u>, 2005<br/>Date</p> <p><u>[Signature]</u><br/>Name: Jan P. Shaeffer</p> <p>State of California )<br/>                                  ) ss<br/>County of Santa Clara )</p> <p>I certify that I <del>know</del> have satisfactory evidence that <u>Jan P. Shaeffer</u> is the person who appeared before me, and said person acknowledged that he signed this instrument and acknowledged it to be his free and voluntary act for the uses and purposes mentioned in the instrument.</p> <p>WITNESS my hand and official seal.</p> <p><u>[Signature]</u><br/>Notary Public Signature</p> <p>Date: <u>10/13/05</u></p> | <p>Please also list date you signed the accompanying<br/>DECLARATION AND<br/>POWER OF<br/>ATTORNEY if<br/>Assignment executed<br/>with new filing:</p> <p><u>10/13</u>, 2005<br/>Date</p> |
|--|---|



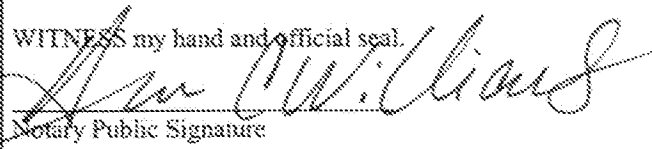
10-13, 2005  
 Date

  
 Name: Bret Stott

State of California      )  
   ) ss  
 County of Santa Clara    )

I certify that I ~~know~~ have satisfactory evidence that Bret Stott is the person who appeared before me, and said person acknowledged that he signed this instrument and acknowledged it to be his free and voluntary act for the uses and purposes mentioned in the instrument.

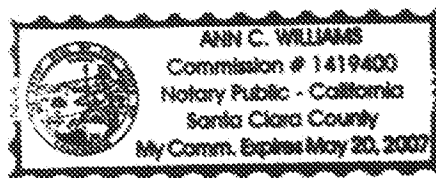
WITNESS my hand and official seal.

  
 Notary Public Signature

Date: 10/13/05

Please also list date you signed the accompanying  
 DECLARATION AND  
 POWER OF  
 ATTORNEY if  
 Assignment executed  
 with new filing:

10-13, 2005  
 Date



Oct 13, 2005  
Date

Benedict C. Lau  
Name: Benedict C. Lau

State of California )  
County of Santa Clara ) ss

I certify that I know ~~have satisfactory evidence~~ that Benedict C. Lau is the person who appeared before me, and said person acknowledged that he signed this instrument and acknowledged it to be his free and voluntary act for the uses and purposes mentioned in the instrument.

WITNESS my hand and official seal  
Ann C. Williams  
Notary Public Signature

Date: 10/13/05

Please also list date you signed the accompanying  
DECLARATION AND  
POWER OF  
ATTORNEY if  
Assignment executed  
with new filing:

Oct 13, 2005  
Date

