

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
FREESCALE SEMICONDUCTOR, INC.	07/29/2011
RECEIVING PARTY DATA	
Name:	RAMBUS INC.
Street Address:	1050 ENTERPRISE WAY
Internal Address:	SUITE 700
City:	SUNNYVALE
State/Country:	CALIFORNIA
Postal Code:	94089
PROPERTY NUMBERS Total: 3	
Property Type	Number
Application Number:	13446930
Application Number:	13750345
Application Number:	16026733
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NAME OF SUBMITTER:	LINDA J. THAYER
SIGNATURE:	/Linda J. Thayer/
DATE SIGNED:	07/23/2019
Total Attachments: 4	
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PATENT ASSIGNMENT

WHEREAS, **Freescale Semiconductor, Inc.** ("Seller") is the owner of certain United States and/or foreign patents and/or patent applications listed in Exhibit A annexed hereto (collectively referred to as the "Patents"); and

WHEREAS, **Rambus Inc.**, ("Rambus") is desirous of acquiring Seller's right, title and interest in, to and under the said Patents (and all foreign counterparts and related foreign patents).

Now, Therefore,

For good and valuable consideration, the receipt of which is hereby acknowledged, Seller hereby sells, assigns, transfers and sets over to Rambus all rights, title, and interest in and to the Patents aforesaid, any inventions disclosed in said Patents, any reissue or reissues of said Patents already granted or which may be granted, any certificates of reexamination already granted or which may be granted the same to be held and enjoyed by Rambus as fully and entirely as the same would have been held and enjoyed by Seller, if this assignment had not been made; such rights, title, and interest include, without limitation, the right to file, prosecute, and maintain patents on said inventions, an assignment of all claims for equitable relief and damages by reason of past, current, and future infringement and/or provisional rights under said Patents, with the right to sue for, and collect the same for its own use and behalf, and for the use and behalf of its successors, assigns or other legal representatives.

Seller assigns and empowers Rambus, its successors, assigns, or other legal representatives all rights to make applications for patents or other forms of protection for said inventions and to prosecute such applications and the Patents, as well as to claim and receive the benefit of the right of priority provided by the International Convention for the Protection of Industrial Property, as amended, or by any convention which may henceforth be substituted for it, and the right to invoke and claim such right of priority without further written or oral authorization.

And, Seller hereby authorizes and requests the respective patent office or governmental agency in each jurisdiction to issue any and all patents, certificates of invention, utility models or other governmental grants or issuances that may be granted upon any of the Patents in the name of Rambus.

In Witness Whereof, Seller has executed this Assignment by its duly authorized representative effective as of July 31, 2011.

Freescale Semiconductor, Inc.

By: *Jennifer B. Wharmett*
Name: Jennifer B. Wharmett
Title: VP & Chief IP Counsel
Date: July 29, 2011

State of Texas

County of Williamson/Travis

On this 29th day of JULY, 2011 before me personally appeared JENNIFER WHARMETT to me known to be the person described herein and who executed the foregoing instrument, and acknowledged that he executed the same knowingly and willingly and for the purposes therein contained.

Witness my hand and Notarial seal the day and year immediately above written.

Patricia Thomas
Notary Public

My Commission Expires:



Exhibit A

Patent #	Document	Class	Patent #	App #	Status	Inventor 1	Title
1	SC13886TH	PCT		PCT/US05/46528	INACTIVE	MOYER, WILLIAM C.	METHOD AND APPARATUS FOR QUALIFYING DEBUG OPERATION USING SOURCE INFORMATION
	SC13888TH	TAMV		NA	INACTIVE	MOYER, WILLIAM C.	METHOD AND APPARATUS FOR QUALIFYING DEBUG OPERATION USING SOURCE INFORMATION
	SC13886TH	USA	7237149	11/065598	GRANTED	MOYER, WILLIAM C.	METHOD AND APPARATUS FOR QUALIFYING DEBUG OPERATION USING SOURCE INFORMATION
2	NT10751TS	JAPA		2510-520016	FILED	EGUCHI, RICHARD KAZUKI	NON-VOLATILE MEMORY HAVING A DYNAMICALLY ADJUSTABLE SOFT PROGRAM VERIFY VOLTAGE LEVEL AND METHOD THEREFOR
	NT10751TS	KORS		10-2010-7092351	FILED	EGUCHI, RICHARD KAZUKI	NON-VOLATILE MEMORY HAVING A DYNAMICALLY ADJUSTABLE SOFT PROGRAM VERIFY VOLTAGE LEVEL AND METHOD THEREFOR
	NT10751TS	PCT		PCT/US2008/057222	INACTIVE	EGUCHI, RICHARD KAZUKI	NON-VOLATILE MEMORY HAVING A DYNAMICALLY ADJUSTABLE SOFT PROGRAM VERIFY VOLTAGE LEVEL AND METHOD THEREFOR
	NT10751TS	TAMV		097125121	FILED	EGUCHI, RICHARD KAZUKI	NON-VOLATILE MEMORY HAVING A DYNAMICALLY ADJUSTABLE SOFT PROGRAM VERIFY VOLTAGE LEVEL AND METHOD THEREFOR
	NT10751TS	USA	7649782	11/631168	GRANTED	EGUCHI, RICHARD KAZUKI	NON-VOLATILE MEMORY HAVING A DYNAMICALLY ADJUSTABLE SOFT PROGRAM VERIFY VOLTAGE LEVEL AND METHOD THEREFOR
3	HC10083TC	USA	7405546	11/469074	GRANTED	RAMARAJU, RAVINDERARAJ	STORAGE CIRCUIT WITH EFFICIENT SLEEP MODE AND METHOD
	HC10109TH	USA	7453755	11/469084	GRANTED	MOYER, WILLIAM C.	METHOD FOR POWERING AN ELECTRONIC DEVICE AND CIRCUIT
4	HC45132TH	USA	7853634	11/668789	GRANTED	MOYER, WILLIAM C.	INSTRUCTION-BASED TIMER CONTROL DURING DEBUG
5	HC45222TH	USA	7831882	11/668787	GRANTED	MOYER, WILLIAM C.	SELECTIVE TIMER CONTROL DURING SINGLE-STEP INSTRUCTION EXECUTION
6	SC15144TH	CHN	200780006345.6	200780006345.6	GRANTED	MOYER, WILLIAM C.	DATA PROCESSING SYSTEM HAVING ADDRESS TRANSLATION BYPASS AND METHOD THEREFOR
	SC15144TH	JAPA		2008-556490	FILED	MOYER, WILLIAM C.	DATA PROCESSING SYSTEM HAVING ADDRESS TRANSLATION BYPASS AND METHOD THEREFOR
	SC15144TH	PCT		PCT/US2007/081191	INACTIVE	MOYER, WILLIAM C.	DATA PROCESSING SYSTEM HAVING ADDRESS TRANSLATION BYPASS AND METHOD THEREFOR
	SC15144TH	TAMV		098103283	FILED	MOYER, WILLIAM C.	DATA PROCESSING SYSTEM HAVING ADDRESS TRANSLATION BYPASS AND METHOD THEREFOR
	SC15144TH	USA	7378807	11/360926	GRANTED	MOYER, WILLIAM C.	DATA PROCESSING SYSTEM HAVING ADDRESS TRANSLATION BYPASS AND METHOD THEREFOR
7	NC10117TH	EPC		07840437.3	FILED	MOYER, WILLIAM C.	DATA PROCESSING SYSTEM HAVING CACHE MEMORY DEBUGGING SUPPORT AND METHOD THEREFOR
	NC10117TH	JAPA		2008-430482	FILED	MOYER, WILLIAM C.	DATA PROCESSING SYSTEM HAVING CACHE MEMORY DEBUGGING SUPPORT AND METHOD THEREFOR
	NC10117TH	PCT		PCT/US2007/073833	INACTIVE	MOYER, WILLIAM C.	DATA PROCESSING SYSTEM HAVING CACHE MEMORY DEBUGGING SUPPORT AND METHOD THEREFOR
	NC10117TH	USA	7555605	11/536585	GRANTED	MOYER, WILLIAM C.	DATA PROCESSING SYSTEM HAVING CACHE MEMORY DEBUGGING SUPPORT AND METHOD THEREFOR
8	SC13558TH	EPC		08730442.2	INACTIVE	HU, CARL C.	PREDICTIVE METHODS AND APPARATUS FOR NON-VOLATILE MEMORY
	SC13558TH	JAPA		2006-506837	FILED	HU, CARL C.	PREDICTIVE METHODS AND APPARATUS FOR NON-VOLATILE MEMORY
	SC13558TH	PCT		PCT/US2006/7123	INACTIVE	HU, CARL C.	PREDICTIVE METHODS AND APPARATUS FOR NON-VOLATILE MEMORY
	SC13558TH	USA	7447344	11/118827	GRANTED	HU, CARL C.	PREDICTIVE METHODS AND APPARATUS FOR NON-VOLATILE MEMORY
9	SC14806TS	USA	7808938	11/481611	GRANTED	ENLOTH, BRIAN W.	METHOD AND APPARATUS FOR RECONFIGURING A REMOTE DEVICE
10	TS48235TH	USA	7870434	12/040221	GRANTED	MOYER, WILLIAM C.	METHOD AND APPARATUS FOR MASKING DEBUG RESOURCES

Family #	Patent #	Class	Patent #	App #	Status	Inventor	Title
11	TS48241TH	CHN		200802105425.8	FILED	ROBERTSON, ALISTAIR P.	METHOD AND APPARATUS FOR SHARING DEBUG RESOURCES
	TS48241TH	JAPA		2010-548758	FILED	ROBERTSON, ALISTAIR P.	METHOD AND APPARATUS FOR SHARING DEBUG RESOURCES
	TS48241TH	PCT		PCT/US2008/031769	INACTIVE	ROBERTSON, ALISTAIR P.	METHOD AND APPARATUS FOR SHARING DEBUG RESOURCES
	TS48241TH	TAMW		098104526	FILED	ROBERTSON, ALISTAIR P.	METHOD AND APPARATUS FOR SHARING DEBUG RESOURCES
	TS48241TH	USA	7876430	12040216	GRANTED	ROBERTSON, ALISTAIR P.	METHOD AND APPARATUS FOR SHARING DEBUG RESOURCES
12	SC14228TP	CHN		200805032778.4	FILED	NISET, MARTIN L.	METHOD AND APPARATUS FOR PROGRAMMING/ERASING A NON-VOLATILE MEMORY
	SC14228TP	EPC		06803846.5	FILED	NISET, MARTIN L.	METHOD AND APPARATUS FOR PROGRAMMING/ERASING A NON-VOLATILE MEMORY
	SC14228TP	KOR		11200000000000	FILED	NISET, MARTIN L.	METHOD AND APPARATUS FOR PROGRAMMING/ERASING A NON-VOLATILE MEMORY
	SC14228TP	JAPA		2008-520122	FILED	NISET, MARTIN L.	METHOD AND APPARATUS FOR PROGRAMMING/ERASING A NON-VOLATILE MEMORY
	SC14228TP	KOR		10-2008-7005633	FILED	NISET, MARTIN L.	METHOD AND APPARATUS FOR PROGRAMMING/ERASING A NON-VOLATILE MEMORY
	SC14228TP	PCT		PCT/US2008/004318	INACTIVE	NISET, MARTIN L.	METHOD AND APPARATUS FOR PROGRAMMING/ERASING A NON-VOLATILE MEMORY
	SC14228TP	TAMW		098131909	FILED	NISET, MARTIN L.	METHOD AND APPARATUS FOR PROGRAMMING/ERASING A NON-VOLATILE MEMORY
	SC14228TP	USA	7892473	11220739	GRANTED	NISET, MARTIN L.	METHOD AND APPARATUS FOR PROGRAMMING/ERASING A NON-VOLATILE MEMORY
13	SC138002C	USA	7433803	18116872	GRANTED	CIRIELLO, JOSEPH C.	PERFORMANCE MONITOR WITH PRECISE START/STOP CONTROL
14	VM10145TH	USA	7778284	11678440	GRANTED	KUMAR, BHODEV	TECHNIQUES FOR OPERATING A PROCESSOR SUBSYSTEM
15	NC48313TH	CHN		200800111282.5	FILED	MOYER, WILLIAM C.	DEBUG INSTRUCTIONS FOR USE IN A DATA PROCESSING SYSTEM
	NC48313TH	JAPA		2010-528918	FILED	MOYER, WILLIAM C.	DEBUG INSTRUCTIONS FOR USE IN A DATA PROCESSING SYSTEM
	NC48313TH	PCT		PCT/US2008/075681	INACTIVE	MOYER, WILLIAM C.	DEBUG INSTRUCTIONS FOR USE IN A DATA PROCESSING SYSTEM
	NC48313TH	TAMW		097135379	FILED	MOYER, WILLIAM C.	DEBUG INSTRUCTIONS FOR USE IN A DATA PROCESSING SYSTEM
	NC48313TH	USA	7889815	11871847	GRANTED	MOYER, WILLIAM C.	DEBUG INSTRUCTIONS FOR USE IN A DATA PROCESSING SYSTEM
16	SC12829TH	CHN	200480013704.7	200480013704.7	GRANTED	MOYER, WILLIAM C.	READ ACCESS AND STORAGE CIRCUITRY READ ALLOCATION APPLICABLE TO A CACHE
	SC12829TH	EPC		04755623.2	INACTIVE	MOYER, WILLIAM C.	READ ACCESS AND STORAGE CIRCUITRY READ ALLOCATION APPLICABLE TO A CACHE
	SC12829TH	JAPA		2008-532517	FILED	MOYER, WILLIAM C.	READ ACCESS AND STORAGE CIRCUITRY READ ALLOCATION APPLICABLE TO A CACHE
	SC12829TH	KOR		10-2008-7022289	FILED	MOYER, WILLIAM C.	READ ACCESS AND STORAGE CIRCUITRY READ ALLOCATION APPLICABLE TO A CACHE
	SC12829TH	PCT		PCT/US04/13372	INACTIVE	MOYER, WILLIAM C.	READ ACCESS AND STORAGE CIRCUITRY READ ALLOCATION APPLICABLE TO A CACHE
	SC12829TH	TAMW		093112640	INACTIVE	MOYER, WILLIAM C.	READ ACCESS AND STORAGE CIRCUITRY READ ALLOCATION APPLICABLE TO A CACHE
	SC12829TH	USA	6954826	10442718	GRANTED	MOYER, WILLIAM C.	READ ACCESS AND STORAGE CIRCUITRY READ ALLOCATION APPLICABLE TO A CACHE
	SC12829TH	USA	7185148	11197836	GRANTED	MOYER, WILLIAM C.	READ ACCESS AND STORAGE CIRCUITRY READ ALLOCATION APPLICABLE TO A CACHE
17	NC45366TH	USA		12/872771	FILED	MOYER, WILLIAM C.	CONFIGURABLE PIPELINE BASED ON ERROR DETECTION MODE IN A DATA PROCESSING SYSTEM
	NC45366TH	USA	7814300	12/112582	GRANTED	MOYER, WILLIAM C.	CONFIGURABLE PIPELINE TO PROCESS AN OPERATION AT ALTERNATE PIPELINE STAGES DEPENDING ON ECC/PARITY PROTECTION MODE OF MEMORY ACCESS
18	NC45336TH	CHN		20080121422.1	FILED	MOYER, WILLIAM C.	SELECTIVELY PERFORMING A SINGLE CYCLE WRITE OPERATION WITH ECC IN A DATA PROCESSING SYSTEM
	NC45336TH	KOR		10-2010-7025795	FILED	MOYER, WILLIAM C.	SELECTIVELY PERFORMING A SINGLE CYCLE WRITE OPERATION WITH ECC IN A DATA PROCESSING SYSTEM
	NC45336TH	PCT		PCT/US2008/004871	INACTIVE	MOYER, WILLIAM C.	SELECTIVELY PERFORMING A SINGLE CYCLE WRITE OPERATION WITH ECC IN A DATA PROCESSING SYSTEM
	NC45336TH	TAMW		098107802	FILED	MOYER, WILLIAM C.	SELECTIVELY PERFORMING A SINGLE CYCLE WRITE OPERATION WITH ECC IN A DATA PROCESSING SYSTEM
	NC45336TH	USA		12/112589	FILED	MOYER, WILLIAM C.	SELECTIVELY PERFORMING A SINGLE CYCLE WRITE OPERATION WITH ECC IN A DATA PROCESSING SYSTEM