

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT3175444

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
JEFFERY R. PARKER	03/07/2012
TIMOTHY A. MCCOLLUM	03/07/2012
FUMITOMO HIDE	03/07/2012
ALEXEY TITOV	03/07/2012
IAN HARDCASTLE	03/01/2012
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	Rambus Delaware LLC
<b>Street Address:</b>	6611 West Snowville Road
<b>City:</b>	Brecksville
<b>State/Country:</b>	OHIO
<b>Postal Code:</b>	44141
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
Application Number:	14486410
<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>	
<b>Phone:</b>	408-462-8000
<b>Email:</b>	twain@rambus.com
<b>Correspondent Name:</b>	TARISA WAIN
<b>Address Line 1:</b>	1050 ENTERPRISE WAY #700
<b>Address Line 4:</b>	SUNNYVALE, CALIFORNIA 94089
<b>ATTORNEY DOCKET NUMBER:</b>	RA994.P1C1.US
<b>NAME OF SUBMITTER:</b>	TARISA WAIN
<b>SIGNATURE:</b>	/Tarisa Wain/
<b>DATE SIGNED:</b>	01/08/2015
<b>Total Attachments: 39</b>	
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**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)

**Jeffery R. Parker of Richfield, OH**  
**Timothy A. McCollum of Avon Lake, OH**  
**Fumitomo Hide of San Jose, CA**  
**Alexey Titov of Sagamore Hills, OH**  
**Ian Hardcastle of Sunnyvale, CA**

(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 **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 **provisional application filed under 35 U.S.C. § 111(b)** ("APPLICATION") entitled "**LIGHTING ASSEMBLY WITH ADJUSTABLE LIGHT OUTPUT**", having:

  X   United States Patent Application No. **61/454,221**, filed on **March 18, 2011**;

       which claims priority to U.S. Patent Application No. [Enter **APPLICATION NUMBER**] filed on [Enter **DATE**]; 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.


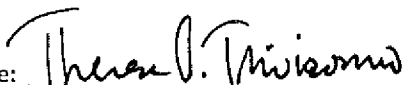

INVENTOR represents that INVENTOR has the rights, titles, and interests to convey as set forth herein, and covenants with ASSIGNEE that the INVENTOR has not made and will not hereafter make any assignment, grant, mortgage, license, or other agreement affecting the rights, titles, and interests herein 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:

	<u>3-7-2012</u>
Inventor Name: <b>Jeffery R. Parker</b>	Date
State of Ohio ) County of Cuyahoga )	
On <u>3-7-2012</u> before me, <u>THERESE A. TRIVISONNO</u> , Notary Public,	
personally appeared <b>Jeffery R. Parker</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/she executed the same in his/her authorized capacity, and that by his/her 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 Ohio that the foregoing is true and correct.	
WITNESS my hand and official seal.	
Signature: <u></u>	(Seal)
	

*Timothy A. McCollum*      3/7/2012

---

Inventor Name: **Timothy A. McCollum**      Date


State of Ohio      )  
County of Cuyahoga      )

On 3-7-2012 before me, THERESE A. TRIVISONNO, Notary Public,  
personally appeared **Timothy A. McCollum**, 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/she executed the same in his/her authorized capacity, and that by his/her 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 Ohio that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature: *Therese A. Trivisonno*      (Seal)



**THERESE A. TRIVISONNO**  
Notary Public, State of Ohio, Cuy. Cty.  
My Commission Expires Jan. 22, 2013

---

Inventor Name: **Fumitomo Hide**      Date

State of California      )  
County of Santa Clara      )

On \_\_\_\_\_ before me, \_\_\_\_\_, Notary Public,  
personally appeared **Fumitomo Hide**, 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/she executed the same in his/her authorized capacity, and that by his/her 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 Ohio that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

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



ASSIGNMENT

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Jeffery R. Parker of Richfield, OH  
Timothy A. McCollum of Avon Lake, OH  
Fumitomo Hide of San Jose, CA  
Alexey Titov of Sagamore Hills, OH  
Ian Hardcastle of Sunnyvale, CA

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- United States Patent Application No. **61/454,221**, filed on **March 18, 2011**;
- which claims priority to U.S. Patent Application No. **[Enter APPLICATION NUMBER]** filed on **[Enter DATE]**; 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.

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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:**

_____	
Inventor Name: <b>Jeffery R. Parker</b>	Date _____
State of Ohio            )	
County of Cuyahoga    )	
On _____ before me, _____, Notary Public,	
personally appeared <b>Jeffery R. Parker</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/she executed the same in his/her authorized capacity, and that by his/her 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 Ohio that the foregoing paragraph is true and correct.	
WITNESS my hand and official seal.	
Signature: _____	(Seal)



Inventor Name: **Timothy A. McCollum** Date \_\_\_\_\_

State of Ohio )  
 County of Cuyahoga )

On \_\_\_\_\_ before me, \_\_\_\_\_, Notary Public,  
 personally appeared **Timothy A. McCollum**, 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/she executed the same in his/her authorized capacity, and that by his/her 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 Ohio that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

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

*[Handwritten Signature]* Date March 7, 2012

Inventor Name: **Fumitomo Hide** Date \_\_\_\_\_

State of California )  
 County of Santa Clara )

On 7 March 2012 before me, V. Jercha, Notary Public,  
 personally appeared **Fumitomo Hide**, 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/she executed the same in his/her authorized capacity, and that by his/her 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 Ohio that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature: V. Jercha (Seal)



V. JERCHA  
 COMM. #1860235  
 Notary Public - California  
 San Mateo County  
 My Comm. Expires Aug. 6, 2013

Inventor Name: **Alexey Titov** \_\_\_\_\_ Date \_\_\_\_\_

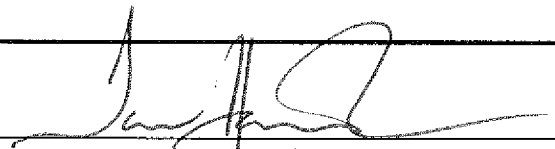
State of Ohio )  
 County of Cuyahoga )

On \_\_\_\_\_ before me, \_\_\_\_\_, Notary Public,  
 personally appeared **Alexey Titov**, 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/she executed the same in his/her authorized capacity, and that by his/her 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 Ohio that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

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

 \_\_\_\_\_ Date 1 March 2012

Inventor Name: **Ian Hardcastle** \_\_\_\_\_ Date \_\_\_\_\_


State of California )  
 County of Santa Clara )

On 1 Mar 2012 before me, V. Jercha, Notary Public,  
 personally appeared **Ian Hardcastle**, 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/she executed the same in his/her authorized capacity, and that by his/her 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: V. Jercha \_\_\_\_\_ (Seal)



V. JERCHA  
 COMM. #1860235  
 Notary Public - California  
 San Mateo County  
 My Comm. Expires Aug. 6, 2013

PATENT ASSIGNMENT

Rambus Inc. ("Assignor") executes this instrument effective as of October 1, 2012 in favor of Rambus International Ltd. ("Assignee") to evidence the transfer of certain patent rights from Assignor to Assignee in connection with the IP Contribution and Assignment Agreement dated October 1, 2012 between Assignor and Assignee.

1. For good and valuable consideration, receipt of which the Assignor acknowledges, the Assignor hereby sells, assigns and transfers to the Assignee all of the Assignor's right, title, and interest in and to:

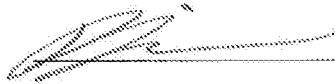
- (a) the patents and patent applications specifically listed in Annex A to this Patent Assignment (collectively, the "Assigned Patent Rights");
- (b) the inventions claimed in the Assigned Patent Rights together with the right to file applications and obtain patents for said inventions in Assignee's own name throughout the world; and
- (c) the following properties and rights with respect to the Assigned Patent Rights:
  - (i) any patents in the United States and anywhere else in the world and any patent applications in the United States and anywhere else in the world that may be granted or filed, respectively, with respect to the Assigned Patent Rights;
  - (ii) all rights to sue and recover damages and payments for past, present, and future infringements of any of the Assigned Patent Rights; and
  - (iii) other than with respect to royalties and other payments due under license agreements executed by Assignor with third parties prior to the date hereof, all income, royalties, damages, and payments due or payable to the Assignor with respect to the Assigned Patent Rights.

2. This Patent Assignment (a) benefits and binds the parties and their respective successors and assignees, and (b) may be signed in counterparts.

Rambus Inc.

Rambus International Ltd.

By: \_\_\_\_\_



By: \_\_\_\_\_

Name: \_\_\_\_\_

*Jeff Kama*

Name: \_\_\_\_\_

Title: \_\_\_\_\_

*SVP / GC*

Title: \_\_\_\_\_

Date: \_\_\_\_\_

*Nov 1, 2013*

Date: \_\_\_\_\_

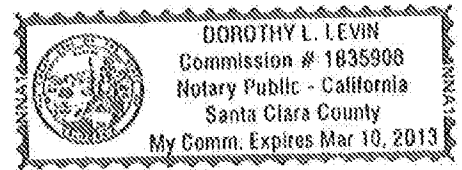
STATE OF CALIFORNIA )  
COUNTY OF SANTA CLARA )

On March 1, 2013 before me, Dorothy L. Levin, Notary Public, personally appeared Joe Kim and \_\_\_\_\_ 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: *Dorothy L. Levin* (seal)



PATENT ASSIGNMENT

Rambus Inc. ("Assignor") executes this instrument effective as of October 1, 2012 in favor of Rambus International Ltd. ("Assignee") to evidence the transfer of certain patent rights from Assignor to Assignee in connection with the IP Contribution and Assignment Agreement dated October 1, 2012 between Assignor and Assignee.

1. For good and valuable consideration, receipt of which the Assignor acknowledges, the Assignor hereby sells, assigns and transfers to the Assignee all of the Assignor's right, title, and interest in and to:

- (a) the patents and patent applications specifically listed in Annex A to this Patent Assignment (collectively, the "Assigned Patent Rights");
- (b) the inventions claimed in the Assigned Patent Rights together with the right to file applications and obtain patents for said inventions in Assignee's own name throughout the world; and
- (c) the following properties and rights with respect to the Assigned Patent Rights:
  - (i) any patents in the United States and anywhere else in the world and any patent applications in the United States and anywhere else in the world that may be granted or filed, respectively, with respect to the Assigned Patent Rights;
  - (ii) all rights to sue and recover damages and payments for past, present, and future infringements of any of the Assigned Patent Rights; and
  - (iii) other than with respect to royalties and other payments due under license agreements executed by Assignor with third parties prior to the date hereof, all income, royalties, damages, and payments due or payable to the Assignor with respect to the Assigned Patent Rights.

2. This Patent Assignment (a) benefits and binds the parties and their respective successors and assignees, and (b) may be signed in counterparts.

Rambus Inc.

Rambus International Ltd.

By: \_\_\_\_\_

By: JR

Name: \_\_\_\_\_

Name: JEFF PARKER

Title: \_\_\_\_\_

Title: PRESIDENT

Date: \_\_\_\_\_

Date: 3/1/2013

STATE OF OHIO

COUNTY OF CUYAHOGA



The foregoing instrument was acknowledged before me this 1st day of Mar by Jeff Parker 2013

1  
EDDY G. PETRIC  
Notary Public, State of Ohio Eddy G. Petric  
My Commission Exp. 8/12/2017

ANNEX A TO PATENT ASSIGNMENT

LIST OF ASSIGNED PATENTS

(Issued Patents)

ApplicationNumber	Patent#
13/313,190	8322905
13/314,751	8308334
13/315,412	8215816
09/376,262	6565233
10/696,662	6924945
10/685,932	6974232
09/717,492	6502961
12/319,171	8272770
12/319,172	8152352
13/359,952	8292445
12/456,126	8152318
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09/491,450	6473220
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11/194,360	7345824
11/686,143	7480101
11/454,521	7518801
11/537,325	7595934
12/037,262	7573642
10/688,785	7428367
08/147,961	5894686
09/189,823	6030089
11/265,900	7367705
08/585,062	5895115
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09/703,088	6367940
10/005,090	6508563
10/298,367	6886956
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09/256,275	6712481
09/909,318	6752505
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10/232,047	6755547
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10/430,605	7077544
10/601,616	7108414
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10/784,527	7160015
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10/954,551	7364341
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11/454,822	7404660
11/484,063	7364342
11/492,465	7448775
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11/504,204	7703967
11/548,330	7537370
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11/673,302	7434973
11/736,666	7875218
12/033,046	7712932
12/273,121	7798695
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12/164,702	7563012
12/193,852	7887227
12/247,292	7819558
12/364,554	8092068
12/364,637	7810982
12/365,916	7806539
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12/487,726	8029708
12/724,039	7963687
12/858,609	8104944
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29/382,951	D647647
29/382,955	D641919
29/382,958	D653383
29/382,961	D653384
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08/708,100	5709463
09/467,397	6160596
10/097,811	6646810

ApplicationNumber	Patent#
29/410,378	D670412
29/410,380	D670413



11/363,624	7218437
10/513,631	7057790
11/561,335	7999759
12/820,003	8085260
10/529,114	7764281
12/050,032	7535611
12/050,045	7817332
11/215,514	7449759
11/913,232	8115776
11/524,704	7751663
11/766,007	7450799
12/346,377	8218920
11/338,251	7486854
10/557,343	7889162
10/628,942	7463227
09/355,592	6628246
12/574,700	8002450
09/622,808	6525483
10/704,249	6956332
09/790,300	6653997
10/496,418	7003210
12/546,601	8320036
11/355,446	7092142
11/430,576	7515326
11/671,087	7522354
12/420,979	8014057
12/121,666	8077376
10/506,042	7042618

And any foreign counterparts of the above applications and/or cases.

LIST OF ASSIGNED PATENTS (Continued)

(Pending Applications)

PublicationsNumber	Application#
2010-0315836	12/456,122
2011-0116284	12/949,642
	61/455,537
2010-0328748	12/878,918
	29/391,712
2009-0290218	12/536,544
2010-0188858	12/726,017
2011-0058390	12/946,077
2011-0063873	12/948,993
2011-0134362	13/030,881
2012-0081924	13/313,462
	13/661,429
2010-0309409	12/792,422
2012-0069266	13/320,826
2012-0075555	13/321,447
2010-0026703	12/504,236
2011-0309735	13/075,373
	12/883,678
2011-0235365	13/086,775
	12/746,138
2011-0007377	12/808,122
2011-0165812	12/984,471
2011-0164434	12/986,314
	61/608,686
	29/382,966
2009-0034292	11/831,267
	13/216,837
	13/419,787
2007-0211183	11/413,968

PublicationsNumber	Application#
	61/733,481
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2012-0099307	13/279,091
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2011-0267838	13/143,341

2012-0268966	13/448,688
2012-0287671	13/440,210
2012-0287668	13/468,399
	61/657,077
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	13/570,559
	61/586,293
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	61/732,112
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	61/732,059
	61/726,395
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	29/427,453
	61/720,452
	61/708,360
	61/723,968
2007-0047887	11/215,515
2010-0073568	12/564,894

2009-0122387	12/352,913
	13/558,917
	13/542,857
	61/655,675
2012-0281432	13/440,197
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	13/420,926
2012-0236591	13/421,145
	13/421,190
	13/421,089
	13/421,105
2012-0120676	13/294,934

And any foreign counterparts of the above applications and/or cases.

LIST OF ASSIGNED PATENTS (Continued)

(Provisionals)

ApplicationNumber	
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61/648,844	
61/608,686	
61/602,193	
61/597,867	
61/594,423	
61/549,489	
61/548,765	
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60/359,601	
60/359,600	
60/334,661	

60/317,001	
60/278,921	
60/072,202	

And any foreign counterparts of the above applications and/or cases.

PATENT ASSIGNMENT

Rambus International Ltd. ("Assignor") executes this instrument effective as of October 1, 2012 in favor of Rambus Delaware LLC ("Assignee") to evidence the transfer of certain patent rights from Assignor to Assignee in connection with the IP Contribution and Assignment Agreement dated October 1, 2012 between Assignor and Assignee.

1. For good and valuable consideration, receipt of which the Assignor acknowledges, the Assignor hereby sells, assigns and transfers to the Assignee all of the Assignor's right, title, and interest in and to:

- (a) the patents and patent applications specifically listed in Annex A to this Patent Assignment (collectively, the "Assigned Patent Rights");
- (b) the inventions claimed in the Assigned Patent Rights together with the right to file applications and obtain patents for said inventions in Assignee's own name throughout the world; and
- (c) the following properties and rights with respect to the Assigned Patent Rights:
  - (i) any patents in the United States and anywhere else in the world and any patent applications in the United States and anywhere else in the world that may be granted or filed, respectively, with respect to the Assigned Patent Rights;
  - (ii) all rights to sue and recover damages and payments for past, present, and future infringements of any of the Assigned Patent Rights; and
  - (iii) other than with respect to royalties and other payments due under license agreements executed by Assignor with third parties prior to the date hereof, all income, royalties, damages, and payments due or payable to the Assignor with respect to the Assigned Patent Rights.

2. This Patent Assignment (a) benefits and binds the parties and their respective successors and assignees, and (b) may be signed in counterparts.

Rambus International Ltd.

Rambus Delaware LLC

By: J.P.

By: \_\_\_\_\_

Name: JEFF PARKER

Name: \_\_\_\_\_

Title: PRESIDENT

Title: \_\_\_\_\_

Date: 3/1/2017

Date: \_\_\_\_\_

STATE OF OHIO

COUNTY OF CUYAHOGA



The foregoing instrument was acknowledged before me this 1st day of March by Jeff Parker

EDDY G. PETRIC  
Notary Public, State of Ohio  
My Commission Exp. 8/12/2017

Eddy G. Petric



PATENT ASSIGNMENT

Rambus International Ltd. ("Assignor") executes this instrument effective as of October 1, 2012 in favor of Rambus Delaware LLC ("Assignee") to evidence the transfer of certain patent rights from Assignor to Assignee in connection with the IP Contribution and Assignment Agreement dated October 1, 2012 between Assignor and Assignee.

1. For good and valuable consideration, receipt of which the Assignor acknowledges, the Assignor hereby sells, assigns and transfers to the Assignee all of the Assignor's right, title, and interest in and to:

(a) the patents and patent applications specifically listed in Annex A to this Patent Assignment (collectively, the "Assigned Patent Rights");

(b) the inventions claimed in the Assigned Patent Rights together with the right to file applications and obtain patents for said inventions in Assignee's own name throughout the world; and

(c) the following properties and rights with respect to the Assigned Patent Rights:

(i) any patents in the United States and anywhere else in the world and any patent applications in the United States and anywhere else in the world that may be granted or filed, respectively, with respect to the Assigned Patent Rights;

(ii) all rights to sue and recover damages and payments for past, present, and future infringements of any of the Assigned Patent Rights; and

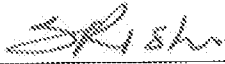
(iii) other than with respect to royalties and other payments due under license agreements executed by Assignor with third parties prior to the date hereof, all income, royalties, damages, and payments due or payable to the Assignor with respect to the Assigned Patent Rights.

2. This Patent Assignment (a) benefits and binds the parties and their respective successors and assignees, and (b) may be signed in counterparts.

Rambus International Ltd.

Rambus Delaware LLC

By: \_\_\_\_\_

By: 

Name: \_\_\_\_\_

Name: NATHAN RUBIN

Title: \_\_\_\_\_

Title: MANAGER

Date: \_\_\_\_\_

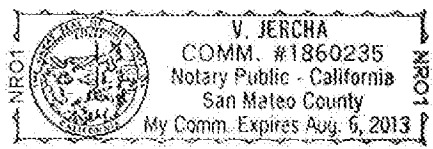
Date: 3/4/2013

STATE OF CALIFORNIA )  
COUNTY OF Santa Clara )

On 4 March 2013, 2013 before me, V Jercha, Notary Public, personally appeared Satish Rishi and [Signature] 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: [Handwritten Signature] (seal)

ANNEX A TO PATENT ASSIGNMENT

LIST OF ASSIGNED PATENTS

(Issued Patents)

ApplicationNumber	Patent#
13/313,190	8322905
13/314,751	8308334
13/315,412	8215816
09/376,262	6565233
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10/685,932	6974232
09/717,492	6502961
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12/319,173	7808697
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11/194,360	7345824
11/686,143	7480101
11/454,521	7518801
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12/273,121	7798695
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12/164,508	7524101
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12/193,852	7887227
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29/382,951	D647647
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29/382,958	D653383
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08/593,029	5623277
08/593,753	5936603
08/708,100	5709463
09/467,397	6160596
10/097,811	6646810

ApplicationNumber	Patent#
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10/628,942	7463227
09/355,592	6628246
12/574,700	8002450
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And any foreign counterparts of the above applications and/or cases.

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(Pending Applications)

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2010-0188858	12/726,017
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2012-0236591	13/421,145
	13/421,190
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	13/421,105
2012-0120676	13/294,934

And any foreign counterparts of the above applications and/or cases.

LIST OF ASSIGNED PATENTS (Continued)

(Provisionals)

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61/547,254	
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60/359,600	
60/334,661	
60/317,001	

60/278,921	
60/072,202	

And any foreign counterparts of the above applications and/or cases.

PATENT ASSIGNMENT

Rambus Inc. ("Assignor") executes this instrument effective as of February 28, 2013 in favor of Rambus Delaware LLC ("Assignee") to evidence the transfer of certain patent rights from Assignor to Assignee in connection with the Intellectual Property Assignment Agreement dated October 1, 2012 between Assignor and Assignee.

1. For good and valuable consideration, receipt of which the Assignor acknowledges, the Assignor hereby sells, assigns and transfers to the Assignee all of the Assignor's right, title, and interest in and to:

- (a) all patents and patent applications resulting from the Lighting and Display Technology business unit of Rambus Inc., including, without limitation, the patents and patent applications specifically listed in Annex A to this Patent Assignment (collectively, the "Assigned Patent Rights");
- (b) the inventions claimed in the Assigned Patent Rights together with the right to file applications and obtain patents for said inventions in Assignee's own name throughout the world; and
- (c) the following properties and rights with respect to the Assigned Patent Rights:
  - (i) any patents in the United States and anywhere else in the world and any patent applications in the United States and anywhere else in the world that may be granted or filed, respectively, with respect to the Assigned Patent Rights;
  - (ii) all rights to sue and recover damages and payments for past, present, and future infringements of any of the Assigned Patent Rights; and
  - (iii) other than with respect to royalties and other payments due under license agreements executed by Assignor with third parties prior to the date hereof, all income, royalties, damages, and payments due or payable to the Assignor with respect to the Assigned Patent Rights.

2. This Patent Assignment (a) benefits and binds the parties and their respective successors and assignees, and (b) may be signed in counterparts.

Rambus Inc.

Rambus Delaware LLC

By: \_\_\_\_\_

By: \_\_\_\_\_

Name: JAE KIM

Name: SATISH RISHI

Title: SVP/GC

Title: MANAGER

Date: Mar 1, 2013

Date: 3/1/13

STATE OF CALIFORNIA )  
COUNTY OF SANTA CLARA )

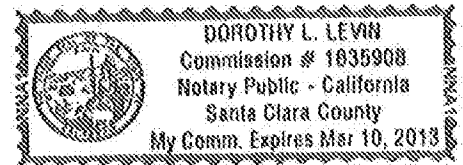
On March 1, 2013 before me, Dorothy L. Levin, Notary Public, personally appeared JAE Kim and \_\_\_\_\_ who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their 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: *Dorothy L. Levin*

(seal)



STATE OF CALIFORNIA )  
COUNTY OF Santa Clara )

On 4 March 2013, 2013 before me, V. Jercha, Notary Public, personally appeared Satish Rishi and \_\_\_\_\_ 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.

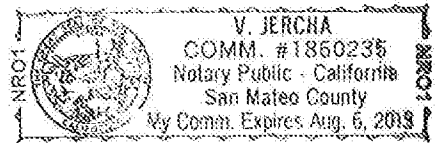
I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature: \_\_\_\_\_

V. Jercha

(seal)



ANNEX A TO PATENT ASSIGNMENT

LIST OF ASSIGNED PATENTS

Application Number	Patent Number
13/772,613	
13/772,457	
13/766,947	
13/759,252	
13/751,485	
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12/250,922	
12/246,686	
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12/234,839	
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11/499,152	
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11/413,609	
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09/097,854	6142652
08/504,431	
07/642,791	5136480
07/565,481	5319491
07/309,424	5005108

And any foreign counterparts of the above applications and/or cases.