503128835 01/08/2015

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3175444

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
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

RECEIVING PARTY DATA

Name:	Rambus Delaware LLC	
Street Address:	6611 West Snowville Road	
City:	Brecksville	
State/Country: OHIO		
Postal Code:	Postal Code: 44141	

PROPERTY NUMBERS Total: 1

Property Type	Number	
Application Number:	14486410	

CORRESPONDENCE DATA

Fax Number:

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.

Phone: 408-462-8000
Email: twain@rambus.com
Correspondent Name: TARISA WAIN

Address Line 1: 1050 ENTERPRISE WAY #700
Address Line 4: SUNNYVALE, CALIFORNIA 94089

ATTORNEY DOCKET NUMBER: RA994.P1C1.US

NAME OF SUBMITTER: TARISA WAIN

SIGNATURE: /Tarisa Wain/

DATE SIGNED: 01/08/2015

Total Attachments: 39

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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:

The entire worldwide right, title, and interest in all inventions and improvements ("SUBJECT MATTER") that are disclosed in the following provisional

	iled under 35 U.S.C. § 111(b) ("A TABLE LIGHT OUTPUT", having:	.PPLICATION") entitled "LIG	HTING ASSEMBLY
X	United States Patent Applicati	on No. 61/454,221 , filed on	March 18, 2011;
	which claims priority to U.S. Pand NUMBER] filed on [Enter DAT	• • •	r APPLICATION
	Application number (), filed (),
	inserted by () on () [Where
	INVENTOR hereby authorizes	and requests ASSIGNEE or it	s agents to insert here
	in each parentheses the applic	ation number and filing dat	e when known, along
	with the signature and date of	the person completing this	section].

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

Docket No.: GLOLP0155US1

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Page 1 of 4

App. No.: 61/454,221

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:

Tadir inventori i rouse sign and pate persin	
98	3-7-2012
Inventor Name: Jeffery R. Parker	Date
9	
State of Ohio) County of Cuyahoga)	
on 317-2012 before me, IHERESE A.	RIVISOND , Notary Public,
personally appeared Jeffery R. Parker, who proved to me whose name is subscribed to the within instrument and a	
his/her authorized capacity, and that by his/her signature	
of which the person acted, executed the instrument.	State Of the State
I certify under PENALTY OF PERJURY under the laws of the	e State of Ohio that the tolegour was reraph is true and
correct.	12 E E E E E E E E E E E E E E E E E E E
WITNESS my hand and official seal.	三
Signature: Milam . Milami	(Seal)
THERESE A. TRIVISONNO Notary Public, State of Ohio, Cuy, Cty	Minner III.
'하 Commission Expires Jan. 22, 2013	

Docket No.: GLOLP0155US1

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Page 2 of 4

App. No.: 61/454,221

Inventor Name: Timothy A. McCollum	3/7/2012
Inventor Name: Hintothy A. Miccontini	pate
State of Ohio)	
County of Cuyahoga)	
on 3-7-2012 before me, THERESE A.	RIVISONNO, Notary Public,
personally appeared Timothy A. McCollum , who proved to person whose name is subscribed to the within instrument same in his/her authorized capacity, and that by his/her sig upon behalf of which the person acted, executed the instru	and acknowledged to me that he/she executed the mature on the instrument the person, or the entity
I certify under PENALTY OF PERJURY under the laws of the scorrect.	State of Ohio that the torp one paragraph is true and
WITNESS my hand and official seal.	S. S
Signature: here I. Missenso (S	eal)
THERESE A. TRIVISONNO Notary Public, State of Ohio, Cuy, Cty	William Charles Commence
My Commission Explies Jan. 22, 201	
<u> </u>	
Inventor Name: Fumitomo Hide	Pate
State of California) County of Santa Clara)	
On before me,	, Notary Public,
personally appeared Fumitomo Hide, who proved to me on whose name is subscribed to the within instrument and ack his/her authorized capacity, and that by his/her signature o of which the person acted, executed the instrument.	mowledged to me that he/she executed the same in
I certify under PENALTY OF PERJURY under the laws of the S	State of Ohio that the foregoing paragraph is true and

Docket No.: GLOLP0155US1

WITNESS my hand and official seal.

correct.

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Page 3 of 4

______ (Seal)

App. No.: 61/454,221

Inventor Name: Alexey Titov	<u> </u>
inventor Name. Alexey 1150	Date
State of Ohio) County of Cuyahoga)	
on 3.7-2012 before me, [HERESE /	1 - (Rivisondo), Notary Public,
	on the basis of satisfactory evidence to be the person d acknowledged to me that he/she executed the same in ure on the instrument the person, or the entity upon behalf
I certify under PENALTY OF PERJURY under the laws of correct.	the State of Ohio the the language parograph is true and
WITNESS my hand and official seal.	33 50
Signature: THERESE A TRIVISIONAND	(Seal)
Notary Public, State of Onic Cuy. CNTY My Commission Expires SAN 22, 20	
ту соннавени в ирин:	
Inventor Name: Ian Hardcastle	Date
State of California) County of Santa Clara)	•
On before me,	, Notary Public,
	on the basis of satisfactory evidence to be the person dacknowledged to me that he/she executed the same in are on the instrument the person, or the entity upon behalf

Docket No.: GLOLP0155US1

WITNESS my hand and official seal.

and correct.

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Signature:

Page 4 of 4

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

(Seal)

App. No.: 61/454,221

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:

The entire worldwide right, title, and interest in all inventions and

application filed under 35 U.S.C. § 111(b) ("APPLICATION") entitled "LIGHTING ASSEMBLY

improvements ("SUBJECT MATTER") that are disclosed in the following provisional

WITH ADJUS	TABLE LIGHT OUTPUT", having:			
X	United States Patent Application No. 61/454,221, filed on March 18, 2011;			
	which claims priority to U.S. Pand NUMBER If filed on [Enter DAT		APPLICATION	
	Application number (inserted by (
	INVENTOR hereby authorizes a in each parentheses the applic	and requests ASSIGNEE or its ation number and filing date	agents to insert here when known, along	

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

Docket No.: GLOLP0155US1

RA994.Prov1.US Page 1 of 4 App. No.: 61/454,221

PATENT

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:

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77 / MAPA LA	
Inventor Name: Jeffery R. Parker	Date
State of Ohio)	
County of Cuyahoga)	
On before me,	, Notary Public,
whose name is subscribed to the within instru	roved to me on the basis of satisfactory evidence to be the person ment and acknowledged to me that he/she executed the same in er signature on the instrument the person, or the entity upon behalf ument.
I certify under PENALTY OF PERJURY under the correct.	e laws of the State of Ohio that the foregoing paragraph is true and
WITNESS my hand and official seal.	
Signature:	(Seal)

Docket No.: GLOLP0155US1

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Page 2 of 4

App. No.: 61/454,221

PATENT

				No. of the Control of
Inventor Name: Timothy	y A. McCollum	Date		
State of Ohio County of Cuyahoga) }			
On	before me,		, Notary	/ Public,
person whose name is su same in his/her authorize	nothy A. MicCollum, who prove abscribed to the within instrumed ed capacity, and that by his/he person acted, executed the in	ment and ackr er signature o	nowledged to me	e that he/she executed the
I certify under PENALTY C correct.	OF PERJURY under the laws of	the State of C	Ohio that the for	egoing paragraph is true and
WITNESS my hand and of	fficial seal.			
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Mitan	The	Ma	erch 7,2	2012
Inventor Name: Fumitor	no Hide	Date		
State of California County of Santa Clara)			
on 1 March 2013	2 before me, VJG	·cha_	, Notary	Public,
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I certify under PENALTY Correct.	OF PERJURY under the laws of	the State of C	hio that the fore	egoing paragraph is true and
WITNESS my hand and of	ficial seal.			V. JERCHA
Signature:	erche	(Seal)	NAROT W	COMM. #1860235 Notary Public - California San Mateo County y Comm. Expires Aug. 6, 2013

Docket No.: GLOLP0155US1

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Page 3 of 4

App. No.: 61/454,221

PATENT

Inventor Name: Alexey T	itov	Date		
State of Ohio County of Cuyahoga))			
On	before me,		, Notary	y Public,
whose name is subscribed his/her authorized capacit	ey Titov, who proved to me on I to the within instrument and Ly, and that by his/her signatur I, executed the instrument.	acknowledge	d to me that h	•
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WITNESS my hand and offi	icial seal.			
Signature:		(Seal)		
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Jante		1 M	ad 2	-312-
Inventor Name: lan Hardo	castle	Date	-	
State of California) County of Santa Clara)				
On 1 Mac 2012 before me, VIesche, 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.				
l certify under PENALTY OF and correct.	PERJURY under the laws of th	ne State of Cal	lifornia that th	e foregoing paragraph is true
WITNESS my hand and offi	cial seal.			V. JERCHA
Signature: <u>Jea</u>	cha	(Seal)	NRO1	COMM. #1860235 Notary Public - California San Mateo County Comm. Expires Aug. 6, 2013

Docket No.: GLOLP0155US1

RA994.Prov1.US

Page 4 of 4

App. No.: 61/454,221 **PATENT**

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 <u>Annex A</u> to this Patent Assignment (collectively, the "<u>Assigned Patent Rights</u>");
 - (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.	
Ву:	Ву:	
Name:	Name:	
Title:	Title:	
Date: 1,2013	Date:	

STATE OF CALIFORNIA COUNTY OF <u>SAMAM</u> CAM))		
On	, 2013 before me,	DOROSHY L. L	
Public, personally appeared who prowhose name(s) is/are-subscribed to	ived to me on the basis of sati	sfactory evidence to l	e the person(s)
executed the same in his/her/their instrument the person(s), or the en	authorized capacity(ies), and t	hat by his/her/their si	gnature(s) on the
I certify under PENALTY OF PER paragraph is true and correct.	UURY under the laws of the	State of California the	nt the foregoing
WITNESS my hand and official se	al.	Satural S	natualistisatisatisatisatisatisatisatisatisati
Signature:	2-2	(seal)	Commission # 1835908 Notary Public - California Z Santa Ciara County My Comm. Expires Mar 10, 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 Assigner to Assignee in connection with the IP Contribution and Assignment Agreement dated October 1, 2012 between Assignor and Assignee.

- I. For good and valuable consideration, receipt of which the Assignor acknowledges, the Assignor hereby sells, assigns and transfers to the Assigned all of the Assignor's right, title, and interest in and to:
 - (a) the patents and patent applications specifically fisted in <u>Annex A</u> to this Patent Assignment (collectively, the "<u>Assigned Patent Rights</u>");
 - (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 proporties 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 Putont 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.
- This Patent Assignment (a) benefits and binds the parties and their respective successors and assignees, and (b) may be signed in counterparts:

By: Name: Name: Title: Title: Date: STATE OF OHIO COUNTY OF CUYAHOGA The foregoing instrument was acknowledged Estate the this 15 f day of 1/9 st by 5 e 1/3 c kee	Rambus Inc.	Rumbus International Ltd.
Title: PRESIDENT NOTANGE BATE OF OHIO Date: STATE OF OHIO COUNTY OF CUYAHOGA The foregoing instrument was acknowledged Estitle nie this 15 t day of 1/2 to 1/2 t	Ву:	
Date: STATE OF OHIO STATE	Name:	Name: JEH PARKER
STATE OF OHIO STATE OF OHIO COUNTY OF CUYAHOOA The foregoing instrument was acknowledged to the nie this 15 t day of 1/2 to by 50 t 10 the	Title:	Title: PRESIDENT NOTACO
this 157 day of 1/8 m by Joseph Dacke	Date:	STATE OF OHIO
1 0013		
EDDY G. PETRIC Notary Public, State of Ohlo		
My Commission Exp. 8/12/2017		Notary Public, State of Ohio

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
12/456,123	8297818
12/319,173	7808697
11/298,768	7499206
10/849,984	7573550
09/491,450	6473220
10/282,702	6819465
10/990,102	6919981
11/184,541	7236286
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
09/167,949	6158867
09/703,088	6367940
10/005,090	6508563
10/298,367	6886956
10/712,622	6796668
08/495,176	5613751

08/560,582	5618096
08/778,089	6079838
08/778,180	5921652
08/778,734	5876107
08/871,391	5975711
09/256,275	6712481
09/909,318	6752505
10/010,835	6827456
10/232,047	6755547
10/324,880	7226196
10/325,573	6749312
10/430,605	7077544
10/601,616	7108414
10/619,815	7195389
10/688,296	7004611
10/729,113	7090389
10/784,527	7160015
10/915,575	7322730
10/954,551	7364341
11/013,833	7178965
11/133,487	7354184
11/133,488	7374305
11/133,584	7165873
11/133,585	7357553
11/244,544	7384177
11/244,894	7736043
11/245,408	7300194
11/342,756	7497599
11/378,080	7434974
11/454,822	7404660
11/484,063	7364342
11/492,465	7448775
11/504,203	7467887
11/504,204	7703967
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	12/365,916	7806539
	12/429,226	7780329
ľ	12/487,726	8029708
	12/724,039	7963687
	12/858,609	8104944
	12/940,424	8142063
-	13/112,045	8123393
	13/113,571	8077185
1	13/186,910	8162524
	29/382,945	D647640
-	29/382,949	D660466
-	29/382,950	D645170
-	29/382,951	D647647
-	29/382,955	D641919
-	29/382,958	D653383
-	29/382,961	D653384
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	29/382,964	D653385
-	11/323,176	8100567
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	11/210,261	7667238
	13/160,179	8162526
	09/097,853	6048081
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	08/593,753	5936603
	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
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12/820,003	8085260
10/529,114	7764281
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12/050,045	7817332
11/215,514	7449759
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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

LIST OF ASSIGNED PATENTS (Continued)

__(Pending Applications)

	}
PublicationsNumber	Application#
2010-0315836	12/456,122
2011-0116284	12/949,642
2011-0110204	61/455,537
2040 0230740	12/878,918
2010-0328748	
2000 0200248	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
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2011-0235365	13/086,775
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2011-0007377	12/808,122
2011-0165812	12/984,471
2011-0164434	12/986,314
	61/608,686
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2009-0034292	11/831,267
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	13/419,787
2007-0211183	11/413,968
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PublicationsNumber	Application#
	61/733,481
2012-0314449	13/490,609
2012-0099307	13/279,091
2011-0267667	13/143,342
2011-0267838	13/143,341

2012-0268966	13/448,688
2012-0287671	13/440,210
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2012-0287668	13/468,399
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	61/653,126
	13/570,559
	61/586,293
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	61/733,458
	29/415,315
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	61/599,982
<u> </u>	61/733,484
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	61/710,865
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	29/420,080
	29/420,079
	61/732,112
	61/691,467
	61/732,059
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	29/424,080
	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
	13/420,893
	13/420,907
	13/420,968
	13/420,926
2012-0236591	13/421,145
	13/421,190
	13/421,089
	13/421,105
2012-0120676	13/294,934

LIST OF ASSIGNED PATENTS (Continued)

(Provisionals)

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ApplicationNumber	
61/691,591	
61/648,844	
61/608,686	***************************************
61/602,193	
61/597,867	
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61/548,765	
61/547,845	2
61/547,254	
61/540,082	
61/521,505	
61/515,530	
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61/486,096	
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61/477,370	
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60/730,771	
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60/359,601	
60/359,600	
60/334,661	

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

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 Assigner 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 <u>Annex A</u> to this Patent Assignment (collectively, the "<u>Assigned Patent Rights</u>");
 - (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
 - (6) 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 Dolaware LLC
ву: 42	By:
Name: SEFF PARKER	Name:
Title: <u>PAES 10 E</u> AST NOTABLE	Tille:
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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.

- 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 <u>Annex A</u> to this Patent Assignment (collectively, the "<u>Assigned Patent Rights</u>");
 - (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. Ran		Rambus Dela	Rambus Delaware LLC	
By:		Ву:	<u> </u>	
Name:		Name:	CATIEN RIWI	
Title:		Title:	NANAGER	
Date:	<u></u>	Date:	3/4/2012	

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whose name(s) sare subscribed to the within instrument and accepted the same in his her/their authorized capacity(ies), and instrument the person(s), or the entity upon behalf of which the	that by his/he	er/their signäfu	re(s) on the
I certify under PENALTY OF PERJURY under the laws of the paragraph is true and correct.	State of Calif	fornia that the	foregoing
WITNESS my hand and official seal.		o de de la companya d	V. JERCHA COMM. #1860235 Notary Public - California San Mateo County
Signature: <u>Uccha</u>	_ (seal)		ty Comm. Expires Avg. 6, 2013

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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ApplicationNumber	Patent#
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29/410,380	D670413
11/363,624	7218437

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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

LIST OF ASSIGNED PATENTS

(Pending Applications)

PublicationsNumber	Application#
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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
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	29/382,966
2009-0034292	11/831,267
	13/216,837
	13/419,787
2007-0211183	11/413,968

PublicationsNumber	Application#
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2012-0099307	13/279,091
2011-0267667	13/143,342

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	61/653,092
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	29/420,089
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	29/420,079
	61/732,112
	61/691,467
	61/732,059
	61/726,395
	29/424,080
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	61/720,452
	61/708,360
	61/723,968
2007-0047887	11/215,515

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	13/542,857
	61/655,675
2012-0281432	13/440,197
	13/420,893
	13/420,907
	13/420,968
	13/420,926
2012-0236591	13/421,145
	13/421,190
	13/421,089
	13/421,105
2012-0120676	13/294,934

LIST OF ASSIGNED PATENTS (Continued)

(Provisionals)

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ApplicationNumber	
61/691,591	
61/648,844	
61/608,686	
61/602,193	
61/597,867	
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61/547,845	
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61/515,530	
61/509,737	
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61/494,939	
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61/477,370	
61/456,805	
61/455,551	
61/454,228	
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61/454,203	
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60/992,085	
60/992,080	
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60/782,028	
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60/659,859	
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60/520,076	
60/488,963	
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60/419,142	
60/380,098	
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60/359,601	
60/359,600	
60/334,661	
60/317,001	

***************************************	60/278,921	
-	60/072,202	

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 Assignce 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 <u>Annex A</u> to this Patent Assignment (collectively, the "<u>Assigned Patent Rights</u>");
 - (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:	Ву:	<u> </u>		
Name:	Name:	5.14 T 1 561 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
Title:	Title:	MANAGER		
Date: 1, 2013	Date:	2/4/13		

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I certify under PENALTY OF PERJURY under the laws of the Staparagraph is true and correct.	
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Signature: Uacke	San Mateo County Vy Comm. Expires Aug. 6, 2018 (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	
13/741,835	
13/723,424	
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13/661,429	
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10/324,882	
10/108,296	
09/234,522	
09/097,854	6142652
08/504,431	
07/642,791	5136480
07/565,481	5319491
07/309,424	5005108

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RECORDED: 01/08/2015